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THE AMERICAN YEAR BOOK

A Record of Events and Progress

YEAR 1944

EDITOR

WILLIAM M. SCHUYLER

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PREFACE

The events of the year 1944, narrated and interpreted in this thirtieth annual issue of The American Year Book, constitute a record of steady progress toward democratic victory in the Second World War. From that record emerges a remarkable tribute to the spirit and combat prowess of the fighting forces of the United Nations, to military, naval, and aerial leadership, to the tireless political planning and guidance of governmental agencies, and to the moral, financial, and labor support of the civilian home fronts. A study of the record should convince the most sceptical and the most cynical that democracy is the vital and permanent ingredient of modern polity, and that, by the same token, the fascist ideology is a perverted revival of mediaeval despotism.

Every subject treated in this volume reflects in one way or another the deep penetration of the war effort into the lives and activities of peoples. The range of subject matter embraces the political, social, economic, religious, scientific, and cultural phases of development. The emphasis is necessarily American, but the growth of world communication and the vast importance of this country in the affairs of other countries have given a strong international cast to the American scene. Each year sees a broadening of thematic scope, and the war has quickened the process. In the preparation of this volume every effort has been made to keep pace with this topical expansion, to the end that the American public may have an authoritative statement of contemporary history which can be preserved in convenient form for study and reference. The appended lists of cognate societies and periodical publications are helpful adjuncts to the narrative material. There are also a comprehensive necrology and a complete index. To the one hundred and fifty contributors should be credited this significant portrayal of an epoch-making year.

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THE AMERICAN YEAR BOOK

THE AMERICAN YEAR BOOK

A RECORD OF EVENTS AND PROGRESS

PART ONE

POLITICAL—NATIONAL AND INTERNATIONAL

DIVISION I

AMERICAN POLITICAL HISTORY

THE PRESIDENTIAL CAMPAIGN AND ELECTION

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GENERAL

The 1944 presidential campaign and election was unusual and distinctive in a number of ways. For the first time in American experience the choice of a chief executive was made while the nation was participating in a great world war. The only other presidential election comparable in this sense was that of 1864, carried out while the Civil War was in progress. As in that instance, our democratic institutions met the severe test successfully. The election was remarkable also in providing opportunity for a test of public sentiment on reelection of an incumbent president for a fourth consecutive term. The historic significance of this was dimmed somewhat, however, by President Roosevelt's successful challenge of the anti-third term tradition in 1940. Finally the 1944 presidential election was the first in the nation's history in which some citizens between the ages of 18 and 20 were allowed to participate. This was made possible by the action of Georgia in 1943 in lowering the age requirement for voters in that state to 18 years.

ABSENTEE WAR SERVICE VOTING

As in 1864, wartime conditions necessitated establishment of special machinery by which voters absent from there homes by reason of military service could participate in the balloting. Shortly before the 1942 general election Congress had enacted a "soldiers' vote" law, designed to facilitate operation of state absentee voting systems. For various reasons this law had proved to be of little value in that election, and late in 1943 a movement began in Congress to secure adoption of a more satisfactory measure for the 1944 election. National interest in the matter was aroused when the President, in a message to Congress early in February, 1944, called attention to the inadequacies of existing state and Federal legislation. He urged passage of a measure providing for a uniform Federal absentee ballot for persons in the military and maritime services as a supplement to state absentee voting laws. Thereafter the issue was sharply drawn in Congress between advocates of a simplified Federal absentee ballot system and those who desired merely a Federal law facilitating the distribution and collection of state absentee ballots. After a legislative struggle lasting through February and March a compromise measure was passed. The President, dissatisfied with its terms, allowed it to become law on April 1 without his signature.

The 1944 act was designed primarily to facilitate, through state electoral machinery, voting by persons in the military and maritime services. A United States War Ballot Commission consisting of the Secretary of War, the Secretary of the Navy, and the War Shipping Administrator was created by the act to supervise the distribution and collection of ballot applications and ballots. Use of a Federal absentee ballot in voting for Congressional and presidential candidates was authorized, in circumstances where use of a state ballot was impossible or impracticable, subject to the willingness of the several states to accept such Federal ballots as official. The degree of cooperation by the states, both through liberalization of their own absentee voting laws and through official recognition of the Federal absentee ballot, was greater than was originally anticipated.

REPUBLICAN PRE-CONVENTION ACTIVITIES

Planning for the Republican National Convention of 1944 began many months before it actually met. Under the auspices of the Republican National Committee a "Post-War Advisory Council" was assembled at Mackinac, Mich. early in September, 1943. To this meeting were invited 43 important party figures, chosen from among Republican members of Congress and state governors. The most noteworthy action of the Council was the adoption of a statement on foreign policy endorsing the principle of "responsible participation by the United States in a post-war cooperative organization among sovereign nations to prevent international aggression and to attain permanent peace." Eight committees were set up for continued study of specified fields of governmental policy. Thus much preliminary work toward the framing of the party platform was accomplished prior to the Convention.

The Republican National Committee, meeting in Chicago on Jan. 9 and 10, selected that city as the site for the party convention, which was to assemble on June 26. The apportionment of the 1,059 delegate seats was in accordance with rules followed in 1940. Wartime considerations as well as the usual political factors entered into the choice of time and place for the party conclave. Fixing of a relatively early date was influenced by a desire to insure ample time following the convention for preparation and distribution of ballots to voters in military service. Chicago's central location would minimize transportational difficulties.

The list of potential party nominees was a lengthy one. Most prominently mentioned as possible standard-bearers were Wendell Willkie, of New York, the party's presidential nominee in 1940; Governor Thomas E. Dewey, of New York, a strong contender for the nomination in 1940; Governor John Bricker, of Ohio; Lieutenant-Commander Harold E. Stassen, former governor of Minnesota; and General Douglas MacArthur, former Chief of Staff of the U. S. Army and currently in command of Allied forces in the Southwest Pacific area.

Governor Dewey's attitude regarding his candidacy was somewhat enigmatic. During his campaign for the New York governorship in 1942 he had pledged himself, if elected, to serve the full four-year term, and had disavowed any intention of seeking the presidential nomination in 1944. During the months preceding the convention he repeatedly refused to declare himself a candidate, thus leaving in the minds of his supporters a doubt as to his availability. However, he at no time indicated unequivocally that he would refuse the nomination. As the time for the convention approached, doubts regarding his willingness to accept a nomination tendered without his solicitation had largely been dissipated.

On the other hand, Governor Bricker and Wendell Willkie announced their candidacies early and by February had embarked on lengthy speaking tours designed to influence the selection of favorably-disposed convention delegates. Lieutenant-Commander Stassen, restricted by naval regulations from actively campaigning for the nomination, declared his willingness to accept if nominated. An active pre-convention campaign was waged in his behalf by his friends. The candidacy of General MacArthur could not be openly announced because of his position in the military organization. Nevertheless, his supporters, acting on the assumption that he would be receptive to a "draft," began a campaign in his behalf.

Public opinion polls of party members had indicated since early in 1943 a steadily growing preference for Governor Dewey as the nominee. The probability of his nomination was increased very greatly in April by developments which led to the elimination of Willkie and General MacArthur as contenders. Willkie, who had begun his campaign for delegates with some degree of success, declared in March his intention of treating the presidential primary in Wisconsin, to be held on April 4, as a test of his real strength in the party. Despite a strenuous two-weeks speaking tour of the state, he failed in the ensuing balloting to secure even a single pledged delegate. Shortly thereafter at the conclusion of a speech in Omaha, Neb. Willkie unexpectedly announced his withdrawal from the contest.

The elimination of General MacArthur came about with equal suddenness. His name had been entered in a number of presidential primaries where his personal consent was not required, and he had received encouraging support. On April 12, Representative A. L. Miller, a Nebraska Republican, released an exchange of correspondence on political topics between himself and General MacArthur. This correspondence, which had begun in September, 1943, revealed that the General had been approached on the subject of his becoming a candidate; that he had not disclaimed interest in the nomination; and that he had criticized strongly some aspects of New Deal philosophy. Publication of this correspondence, which had apparently been intended to be confidential, had the effect of forcing General MacArthur to declare his attitude plainly. He issued a statement denying any intention of seeking the nomination, but it was interpreted widely as an attempt merely to assume the status of an inactive candidate receptive to a "draft." Uncertainty remained until a later statement was made by him on April 30, in which he declared flatly that he did not "covet" the nomination and would refuse it if offered.

The withdrawal of these two strong contenders made Governor Dewey's nomination at the forthcoming convention almost a certainty. As the selection of delegates went on he showed ever increasing strength. Public opinion polls late in the pre-convention period revealed some evidence of a popular trend toward Governor Bricker at Dewey's expense, but this development proved in the end not to be strong enough to overcome the New York governor's commanding lead.

DEMOCRATIC PRE-CONVENTION ACTIVITIES

Democratic presidential campaign activity for 1944 began in January with the selection of a new National Committee chairman to replace Postmaster-General Frank Walker who had resigned the chairmanship post. The new chairman, Robert E. Hannegan, of St. Louis, who relinquished his office as Federal Commissioner of Internal Revenue upon accepting the party chairmanship, began immediately the task of revitalizing the party organization and drawing together the divergent elements of the party for the ensuing struggle. At a meeting of the Democratic National Committee in Washington on Feb. 11, Chicago was selected as the site for the party's national convention, which was scheduled to begin on July 19. The time set for the meeting, in accordance with long-established party practice, was some weeks after that of the Republicans. The choice of Chicago as a convention site was dictated by considerations similar to those which had influenced the Republicans. As in 1932, the two major parties were able to use the same convention hall, thus achieving some economy by sharing the costs of arrangements.

In the pre-convention period, interest centered chiefly on the question whether President Roosevelt would be receptive to a fourth-term nomination. The President turned aside all efforts to draw from him a statement that would clearly indicate his desire or intention. His silence regarding his own plans had the effect of smothering any possible drives for the nomination by other Democrats. Public opinion polls among Democratically-inclined voters showed the President to be unquestionably their choice for the nomination. As the process of choosing convention delegates got under way in March and April these indications of a strong party preference for his renomination were confirmed. Only in some of the Southern states was there any serious opposition registered. Some delegates favorable to Senator Harry F. Byrd, of Virginia, were chosen in Texas, Florida, Virginia, Louisiana, and Mississippi.

An even greater threat to President Roosevelt's candidacy and to party unity appeared in actions taken by the state party conventions in some Southern states, including Texas, Mississippi, and South Carolina. In these states the Democratic conventions withheld the pledging of their party presidential electors to the party nominees pending the outcome of the Democratic National Convention. Conditions were laid down to be met by the National Convention as the price for support of the party nominees by Democratic presidential electors in these states. Chief among the conditions stipulated were: (1) restoration of the old two-thirds rule for nominations in the National Convention, the abandonment of which in 1940 had greatly weakened the influence of the Southern wing of the party in convention proceedings; (2) rejection of Henry Wallace as the vice-presidential nominee; and (3) a "white supremacy" plank in the Democratic platform.

As the process of selecting Democratic delegates neared completion, it became evident that the great majority of them would vote for renomination of the President for a fourth term. On July 10, about a week before the convention was to begin, Chairman Hannegan made public an exchange of letters between himself and the President which settled all doubt regarding Roosevelt's willingness to run. Hannegan had written Roosevelt, stating that the Convention would in all probability renominate him and suggesting that the President, therefore, should give to the Convention or to the public a statement indicating his attitude toward the nomination. Roosevelt's reply was that, although he personally did not desire to run, nevertheless "as a good soldier" he would accept the nomination and serve in the office of president "if so ordered by the Commander-in-Chief of us all—the sovereign people." The re-nomination of the President for a fourth term was thus assured even before the Convention had assembled, and interest on the eve of the party gathering centered largely on the vice-presidential nomination, the wording of the platform, and the outcome of the threat of a Southern Democratic party split.

THE REPUBLICAN NATIONAL CONVENTION

The Republican National Convention, which assembled on June 26 and adjourned on June 28, was characterized by its brevity and by the high degree of party harmony manifested throughout all phases of its proceedings. Because of war exigencies, the two delegates representing the Philippine Islands were unable to be present. Also notable among those not present was Wendell Willkie, the party's 1940 presidential nominee. In the days just before the Convention assembled, Willkie in a series of newspaper articles outlined his views on the stand which he believed the party should take in reference to major issues of the day. Prominent among the principles he endorsed were United States participation in a strong post-war international peace organization, a greatly extended social security system, governmental guarantee of collective bargaining, and a more vigorous policy of protection of civil liberties for all classes.

During each of the three days it met the Convention held both a morning and an evening session. The first evening meeting was featured by the address of the temporary chairman, Governor Earl Warren, of California. At the following morning session the permanent organization was installed, with Representative Joseph W. Martin, Jr., of Massachusetts, Republican Floor Leader in the House, assuming the post of permanent chairman of the Convention. The platform prepared by the Committee on Resolutions, of which Senator Robert A. Taft, of Ohio, was chairman, was presented at this session. It was adopted without dissent. Its ready acceptance by the Convention had been made possible by the careful planning which had already been done, beginning with the Mackinac meeting of the previous year, followed by meetings of the Resolutions Committee members immediately prior to the Convention.

On the important subject of the war and the peace, the platform pledged the party to vigorous prosecution of the war to total victory and to entrance of the United States into a post-war international organization to prevent military aggression, but it disavowed United States participation in a "World State." It also emphasized that our post-war international collaboration commitments must be undertaken only through the regular constitutional treaty-making processes. Reduction of trade barriers by reciprocal agreements subject to Congressional approval was endorsed. On domestic policy the platform was less critical of the Administration's measures than it was of the "bureaucratic" methods by which they were being carried out. It advocated an extended social security program; elimination of wartime controls on business, labor, and agriculture, and return to the free enterprise system as quickly as the exigencies of war permitted; post-war revision of the Federal revenue system; and submission of constitutional amendments limiting the President's tenure to two terms and abolishing the poll tax qualification for voting.

The business of nominating candidates for President and Vice-President was disposed of with dispatch during the daytime session of the third day. Dewey's nomination became a certainty following the collapse of an early attempt to organize the supporters of other candidates into a "stop-Dewey" alliance. After the presentation of Dewey's name as a candidate by Governor Dwight Griswold, of Nebraska, Governor Bricker, potentially the strongest of Dewey's rivals, obtained the floor. In a speech which was something of a shock to his supporters, Bricker asked that his own name be not offered to the Convention and endorsed Dewey's candidacy in the interest of party harmony. Senator Joseph H. Ball, of Minnesota, speaking in like tenor, withdrew the name of Lieutenant-Commander Stassen. No candidate other than Dewey was formally placed before the delegates. On the first ballot Dewey was nominated, receiving a unanimous vote except for one Wisconsin delegate who insisted on recording his vote for General MacArthur.

The vice-presidential nomination was made with equal speed and harmony. Earlier in the Convention's proceedings it had been believed that the Dewey forces favored Governor

Earl Warren, of California, as the running mate of the New York governor. Warren could have, no doubt, secured the nomination, but he emphatically refused to allow his name to be presented. Dewey's representatives had then settled upon Bricker for second place on the ticket, an arrangement which apparently had the Ohio governor's sanction. Governor Edward Martin, of Pennsylvania, presented Governor Bricker's name to the Convention. No other candidate was offered, and Bricker was nominated unanimously.

The Convention closed with an acceptance speech by Dewey delivered in person to the Convention on Wednesday evening. Dewey pledged that his election would mean no change in the nation's war aims or in the military conduct of the war. He promised a more energetic administration of affairs on the home front, designed to achieve not only a rapid termination of the war but also the ultimate goal of full employment and production in the post-war period.

THE DEMOCRATIC NATIONAL CONVENTION

The Democratic National Convention which met from July 19 to July 21 was as short, but not so harmonious, as that of the Republicans. There were 1,176 delegate votes, representing the states and seven territories. Daytime and evening sessions were held on each of the first two days, and a daytime session on the third day. Governor Robert S. Kerr, of Oklahoma, was chosen temporary chairman, and Senator Samuel D. Jackson, of Indiana, was elected permanent chairman.

The reports of two of the four regular committees of the convention afforded occasion for floor contests. The Committee on Credentials had before it a question involving rival 48-vote delegations from Texas. At the regular party convention in that state there had been a split between anti-administration and pro-administration Democrats. The latter had withdrawn and held a separate convention. The Committee on Credentials recommended seating both delegations and dividing the state's 48 votes equally between them. This recommendation, after debate, was accepted by the National Convention, whereupon the greater portion of the "regular" Texas delegation withdrew from the convention hall. Their rebellion was short-lived, however, and they eventually returned to participate in later convention proceedings. The report of the Resolutions Committee also failed to be accepted without challenge. An unsuccessful effort was made from the floor by delegate Roland Bradley, of Texas, to secure inclusion of a plank in the platform advocating creation of "an independent international air force as minimum requirements to enforce peace between the nations."

The 1,360-word platform, in keeping with Democratic platforms of the past three elections, was notable for its brevity. It pledged United States participation in an international organization endowed with power to employ armed forces whenever necessary to prevent aggression; advocated United States membership in an international court of justice; endorsed the principles of the Atlantic Charter and the Four Freedoms; and called for continuation of the Good Neighbor policy. On the domestic front it pledged the earliest possible release of war-time controls on the nation's economy; promised continuation of the current New Deal program of humanitarian, labor, social, and farm legislation, including the "amendment or repeal" of any such laws enacted in recent years which have failed to accomplish their purpose. It recommended simplification of the tax structure and reduction of wartime tax levies as soon as practicable. The platform also advocated exercise by Congress of its full constitutional authority to insure the right of all citizens to "live, develop and vote equally."

Two names were placed before the convention for the presidential nomination. Senator Alben W. Barkley, of Kentucky, Democratic Floor Leader in the Senate, presented the name of Franklin D. Roosevelt, and

Mrs. Fred W. Nooney, a Florida delegate, placed in nomination Senator Harry F. Byrd. On the first ballot Roosevelt received 1,086 votes, Senator Byrd 89 votes, and James A. Farley, of New York, one vote. Practically all of the votes for Senator Byrd were cast by delegates from seven Southern states.

The evening session of the second day's proceedings was featured by the President's speech of acceptance, delivered by radio to the Convention from a railroad car at the naval base in San Diego, Calif. The acceptance speech, calculated to emphasize the President's role as Commander-in-Chief, stressed the importance of pressing on to final military victory and the concluding of a durable peace.

The struggle over the vice-presidential nomination which took place in the final session presented the Convention in its most colorful light. Four days before the Convention met a letter on the subject of the vice-presidential nomination from President Roosevelt to Senator Jackson had been made public. In it the President stated that, while he "personally" would like to have Vice President Henry A. Wallace renominated, he did not wish to appear as "dictating" to the Convention in the matter, and would be willing to run with any nominee favored by the Convention. This significantly mild endorsement of Wallace's candidacy was generally regarded as ending his chances for winning renomination. Nevertheless, with unexpectedly strong labor and liberal backing, Wallace made a near-successful bid for the second place post. During the Convention's proceedings another letter from the President to Chairman Hannegan appeared in which the President endorsed as desirable running mates both Supreme Court Justice William O. Douglas and Senator Harry S. Truman, of Missouri.

Twelve names were formally presented to the Convention for the vice-presidential nomination and five others also received votes in the balloting. The results on the first ballot were as follows: Vice President Wallace, 429½; Senator Truman, 319½; Senator Bankhead, of Alabama, 98; Senator Lucas, of Illinois, 61; Senator Barkley, of Kentucky, 49½; Governor Broughton, of North Carolina, 43; Manpower Commissioner McNutt, of Indiana, 31; Senator O'Mahoney, of Wyoming, 27; Governor Cooper, of Tennessee, 26; Governor Kerr, of Oklahoma, 23; Governor O'Conor, of Maryland, 18; Senator Thomas, of Utah, 10; Senator Pepper, of Florida, 3; Speaker Rayburn, of Texas, 2; Justice Murphy, of Michigan, 2; and newspaperman Bascom N. Timmons, of Texas, 1.

On the second ballot a swing of delegate support from "favorite son" candidates to Senator Truman developed. Before the result of the roll-call vote was announced the count was 477½ for Truman and 473 for Wallace, with ten other candidates receiving scattered support. Before the totals were announced, however, a series of changes in state votes began, with the result that sufficient votes were accumulated by Senator Truman on this ballot to give him the nomination. The final unofficial tally on the second ballot gave Truman 1,031 votes; Wallace, 105; Cooper, 26; Barkley, 6; Douglas, 4; and McNutt, 1. Wallace accepted his defeat without rancor. His elimination from the ticket had obviously been sanctioned by President Roosevelt's spokesmen in the Convention as a measure of appeasement to conservative Democratic party elements. The threat of a party "revolt" posed by some Southern state conventions achieved in this its only notable effect upon the Convention's proceedings.

MINOR PARTY ACTIVITIES

In the 1944 campaign minor parties continued to play their traditional role in presenting to voters dissatisfied with major party candidates and programs an opportunity to register protest. Increasing difficulties were encountered by them, however, in meeting state requirements for securing a place on the presidential ballot, and in many states they were unable to place their candidates officially before the electorate.

Prohibition Party.—The oldest of the established minor parties, the Prohibition Party, was the first to select its candidates. At a convention in Indianapolis on Nov. 13, 1943, attended by approximately 150 delegates, Claude A. Watson, a Los Angeles lawyer, was named as the party's candidate for President. Some difficulty was experienced in finding a candidate willing to accept the vice-presidential nomination. It was eventually bestowed upon Andrew Johnson, of Wilmore, Kentucky. The Prohibition Party secured a place on the presidential ballot in 26 states.

The Socialist Party, meeting in convention at Reading, Penn. on June 3 and 4, nominated for the presidency Norman Thomas, of New York, who had been the party's candidate in the four preceding presidential elections. Darlington Hoopes, a lawyer and former state legislator of Reading, was nominated for the vice-presidency. The Socialist Party secured a place on the ballot in 25 states. The party platform, accusing the Roosevelt Administration of seeking to protect British, French, and Dutch imperialistic interests, urged an immediate armistice with the Axis nations on terms that would bring about the end of totalitarian rule. It advocated disarmament and an international guarantee of national self-government through a world federation with regional branches, condemned military conscription, and urged more rapid progress toward socialization of industry.

Communist Party.—The 402 delegates of the Communist Party, meeting in convention in New York City on May 19 and 20, voted officially to dissolve the Communist Party and formed in its stead the "Communist Political Association." It presented no presidential ticket, but passed a resolution endorsing the candidacy of President Roosevelt.

The Socialist-Labor Party's 47-member convention met in New York City April 29-30 and nominated for the presidency Edward A. Teichert, a steel worker, of Greensburg, Penn. Alva A. Albaugh, an engraver, of Massilon, O., was named for the vice-presidency. In accepting the nomination Teichert, in keeping with the party's tenets, called for "the unconditional surrender of capital and the inauguration of an industrial republic of labor." The party secured a place on the ballot in 15 states.

The America First Party, a newcomer to the group of minor political organizations, held its convention, attended by about 200 delegates, in Detroit on Aug. 30. Gerald L. K. Smith, a Detroit clergyman and politician, was made the presidential nominee. The vice-presidential nomination, which had earlier been offered to Governor Bricker who had spurned it, was given to Harry Romer, of St. Henry, O. The extremely nationalistic platform condemned international entanglements and advocated union of Canada with the United States, stricter curbs on immigration, eventual deportation of 2,000,000 American Negroes to Africa, and investigation of the Jewish "problem" and "courageous action to solve it." Because of the lateness of its organization the America First Party was successful in getting a place on the ballot in only a very few states.

Other Minor Parties.—Some minor parties adopted the course of endorsing President Roosevelt and refrained from putting candidates of their own in the field. Among these were the Farmer-Labor Party, which in its chief center of strength, Minnesota, amalgamated with the Democratic Party; the New York American Labor Party and its 1944 off-shoot, the Liberal Party; and the Social Democratic Federation, a right-wing group that split off from the Socialist Party in 1936. On the other hand an effort was made by a group of dissident Democrats headed by former Secretary of War Harry Woodring to organize an "American Democratic Party" hostile to Roosevelt's candidacy. While it had the backing of a number of prominent Democrats, the movement attracted little popular support outside the South and failed to develop into a major party split. Slates of independent Democratic electors pledged to vote for a presidential candidate other than Franklin D. Roosevelt or for Senator Byrd were placed on the ballot in Texas and South Carolina, but they failed to command a popular vote large enough to make them a factor in the final result.

THE CAMPAIGN

Party Chairmen.—Soon after the Republican Convention the Republican National Committee announced the selection of Herbert Brownell, Jr., a New York lawyer, as the new Republican chairman, replacing Homer Spangler, of Iowa. Brownell had been closely associated with Dewey in his campaigns for the New York governorship. Robert E. Hannegan was reappointed to the Democratic National Committee chairmanship.

Republican Party Strategy.—As the campaign unfolded the basic strategy of the rival organizations was disclosed. By reiterating the party platform pledges of vigorous prosecution of the war to total victory, without change in military plans and leadership, and of American participation in a post-war international peace organization, Republican leaders hoped to "neutralize" the war and peace issues and direct popular attention to domestic problems. They wished to associate their candidates in the public mind with the new, younger Republican leadership which had been evolving at the state level since 1936, and thereby save their standard-bearers from the taint of "Old Guardism." To this end the first important campaign move of Governor Dewey was to assemble on Aug. 2, at St. Louis, a gathering of Republican governors. At this conference a 14-point declaration of principles of public policy was adopted, serving to direct attention to the successful administration of state affairs by Republican governors and emphasizing the need for harmony and teamwork between the national and state governments in meeting post-war economic and social problems. The 26 states having Republican governors, where already a strong party organization was established, provided a strong foundation upon which to build, since the electoral votes of these states would be sufficient to carry the election.

Democratic party strategy was based upon the idea of presenting President Roosevelt as the successful, but preoccupied, commander-in-chief of a nation at war, whose removal from office in the midst of his endeavors might prolong the war, endanger the securing of an enduring peace, and provide the nation with inexperienced leadership in the trying period of economic and social readjustment after the war. President Roosevelt had set the mode of Democratic strategy in his acceptance speech. In it he emphasized the magnitude and importance of the war effort and its objectives and stated that, because of his pressing official duties, he would be unable to campaign "in the usual sense." He made the reservation, however, that he would feel free "to report to the people the facts about matters of concern to them and, especially, to correct any misrepresentations." Of very great importance in supplementing the work of the Democratic party organization during the campaign was the activity of the National Citizens Political Action Committee. This organization, which had its chief support from the ranks of organized labor, had been set up in 1943 under the direction of Sidney Hillman, of New York. It did particularly effective work in getting out a heavy pro-Roosevelt vote on election day in populous industrial areas.

Dewey's formal campaign opened with a speech at Philadelphia on Sept. 7. This was the first of a series of speeches made by him on a transcontinental tour, during which he addressed gatherings at Louisville, Seattle, Portland, San Francisco, Los Angeles, and Oklahoma City. Later, on other shorter campaign swings, he delivered major addresses at St. Louis, Pittsburgh, Clarksburg, Minneapolis, Chicago, New York, Buffalo, Syracuse, Baltimore, Wilkes-Barre, and Boston. Other radio speeches were delivered from Albany. Dewey, who had an excellent radio voice, utilized the radio as his main medium for reaching the public. Instead of making numerous train platform appearances on his speaking tours, he chose to establish contact with a limited public through informal personal conferences with local political figures. Vice-presidential nominee Bricker undertook an intensive speaking campaign, filling engagements in practically every state outside the solid South.

Roosevelt's direct campaign activities were relatively restricted. During the entire campaign he delivered only eight major political speeches. He began his campaign by a radio address delivered at a dinner of the Teamsters' Union in Washington on September 23. Two other radio speeches were broadcast from Washington, and one, on the eve of the election, from his home in Hyde Park, New York. Partly to demonstrate the falsity of a spreading rumor that his health was so impaired that he was physically unable to carry for another four years the burdens of the presidential office, he traveled on October 21 to New York, where he toured the city for several hours, concluding the day with an address before a dinner meeting of the Foreign Policy Association. Still later he undertook campaign tours to Philadelphia, Chicago and Boston, where he made public appearances and delivered speeches to large gatherings. Aside from these activities of the President the burden of campaign speech-making for the Democratic ticket was carried by Vice President Wallace, vice-presidential nominee Truman and other party members in the administration and Congress.

Dewey Arguments.—The constantly reiterated theme in Republican campaign appeals was "It's time for a change." Dewey in his earlier addresses strove to develop the positive side of this slogan by outlining a constructive program which a Republican administration would insure. His declarations on these points were largely elaborations of planks in the party platform, without material alteration. He promised in Seattle a reorganization of administration in labor matters; at San Francisco a friendlier governmental attitude toward free enterprise; at Los Angeles an extended social security program; at Albany simplification of tax laws and reduced tax levies; at Syracuse a revised agricultural program, based on the concept of an economy of abundance. Before the *Herald Tribune* Forum in New York he went somewhat further than his party platform in pledging himself to effective United States participation in an international peace organization.

The greater emphasis in support of the "It's-time-for-a-change" slogan was placed, however, upon the alleged weaknesses and failures of the Roosevelt Administration and the dangers of its continuance in power. Continually Dewey stressed the need for younger, more vigorous men in posts of authority in place of the "tired, bungling, quarrelsome, old men" who comprised the Administration. He indicted the Roosevelt Administration for having failed to solve the problem of unemployment in the pre-war period; for its lack of preparedness at the outset of the war; and for its failure to keep behind it a united Congress and country during the war. Going further, in his opening speech in Philadelphia, he charged, on the basis of an unguarded statement by Selective Service Director Hershey, that the Administration planned to keep men in the military services after the war indefinitely to avoid creating an unemployment problem. On the international front, Dewey assailed the President's secret and personal methods of conducting foreign affairs and his use of special agents and advisers rather than the legally constituted Department of State.

Bureaucratic "red tape" and administrative confusion in all civilian phases of the war effort were continual targets. The allegedly close alliance of Communistic elements with the government through labor's Political Action Committee and the Communist Political Association became a point of attack in the Boston address.

A money-raising campaign instituted by the Democratic National Committee in the form of a "One Thousand Club" also drew the fire of Dewey and other Republican orators in the last weeks of the campaign, affording opportunity for charging the administration with selling favor and privilege in return for campaign funds.

Democratic campaign pronouncements and arguments took the form of an insistence on the need for continuance of Roosevelt's Administration in power in order to preserve the advantage of tried and experienced leadership. The record of the Administration for the past eleven years was pointed to as indicative of the direction in which it would move in the future. On the critical side, Roosevelt, particularly in his speech before the Foreign Policy Association in New York, emphasized the isolationist tendencies of the Republican party from 1920 to the outbreak of the present war. In his opening campaign speech before the Teamsters' Union he assailed the record of the Republican party on labor and humanitarian legislation. Numerous inaccuracies and unfounded assumptions by Dewey in his "reading of the record" were pointed out. In his Boston speech, Roosevelt heatedly decried attempts by his opponents to raise up the false issue of Communism and cultivate national antagonism against citizens of foreign ancestry.

Foreign Policy Issues.—On the whole the campaign failed to develop many real issues on matters of basic policy. Perhaps the nearest approach to a definite divergence of view developed out of the foreign policy speeches of the two major party candidates in New York. Both candidates endorsed United States participation in an international organization to prevent aggression, but Roosevelt expressed a desire to have the American representative in such an organization endowed with authority to commit our government to the use of force when required, without an express authorization from Congress. Dewey's pronouncements on the same point, while apparently in advance of the views expressed in his party platform, were not so clear-cut or convincing.

Wendell Willkie assumed an aloof attitude toward both candidates, and pointedly refrained from stating his intention to support either. His untimely death early in October left forever unanswered the question whether he would have ultimately given his public endorsement to either candidate. Whatever may have been his intention, a number of his followers including his 1940-pre-convention campaign manager, Russell Davenport, declared their support of Roosevelt shortly before the election. The difference in viewpoint and records of the two parties on international questions was declared by Davenport to be the reason for his action. Senator Joseph Ball, of Minnesota, an ardent Republican internationalist, also announced his intention of voting for Roosevelt on the basis of the international cooperation issue. It is probable that this issue, along with the fear of making a change in the military direction of the war, was the most decisive factor in determining the attitude of independent voters.

ELECTION RESULTS

Following a pattern very close to that of the 1940 election, the voting on Nov. 7 produced an electoral landslide for Roosevelt. He carried 36 states with 432 electoral votes, while the remaining states, with 99 electoral votes, went to Dewey. The states electing Republican presidential electors included all of the ten states, with the exception of Michigan, carried by Willkie in 1940, *viz.*, Maine, Vermont, Indiana, Iowa, North Dakota, South Dakota, Nebraska, Kansas, and Colorado. In addition, Dewey carried Ohio, Wisconsin, and Wyoming, which were lost by Willkie by narrow margins in 1940. As in 1936 and 1940, the chief centers of strength for Roosevelt, outside the South, were the larger cities, where the organized labor vote was an important factor. Smaller cities and rural areas outside the South tended to favor Dewey.

By official action the final canvass

State	Popular Vote			Electoral Vote	
	Roosevelt	Dewey	Others	Roosevelt	Dewey
Alabama	198,918	44,540	1,285	11	—
Arizona	80,926	56,287	—	4	—
Arkansas	148,965	65,551	438	9	—
California	1,988,564	1,512,965	17,285	25	—
Colorado	234,331	268,731	1,977	—	6
Connecticut	435,146	390,527	6,320	8	—
Delaware	68,166	56,747	448	3	—
Florida	339,377	143,215	211	8	—
Georgia	268,187	56,506	3,418	12	—
Idaho	107,399	100,137	785	4	—
Illinois	2,079,479	1,939,314	17,268	28	—
Indiana	781,403	875,891	14,797	—	13
Iowa	499,876	547,267	5,458	—	10
Kansas	287,458	422,096	4,222	—	8
Kentucky	472,589	392,448	2,884	11	—
Louisiana	288,000	70,382	124	10	—
Maine	140,631	155,434	335	—	5
Maryland	316,138	293,281	—	8	—
Massachusetts	1,035,296	921,350	4,019	16	—
Michigan	1,106,899	1,084,423	13,895	19	—
Minnesota	589,864	527,416	8,879	11	—
Mississippi	160,792	11,587	—	9	—
Missouri	807,357	761,175	3,146	15	—
Montana	112,556	93,163	1,636	4	—
Nebraska	233,246	329,880	—	—	5
Nevada	29,623	24,611	—	3	—
New Hampshire	119,668	109,916	46	4	—
New Jersey	987,874	961,335	14,552	16	—
New Mexico	81,389	70,688	144	4	—
New York	3,304,238*	2,987,647	20,045	47	—
North Carolina	527,399	262,155	—	14	—
North Dakota	100,144	118,535	1,492	—	4
Ohio	1,570,763	1,582,293	—	—	25
Oklahoma	401,549	319,424	—	10	—
Oregon	248,635	225,365	6,147	6	—
Pennsylvania	1,940,479	1,835,048	19,260	35	—
Rhode Island	174,431	123,517	—	4	—
South Carolina	90,601	4,610	8,164**	8	—
South Dakota	96,711	135,362	—	—	4
Tennessee	308,707	200,311	1,674	12	—
Texas	821,605	191,425	137,313***	23	—
Utah	150,088	97,891	—	4	—
Vermont	53,820	71,527	—	—	3
Virginia	242,276	145,243	966	11	—
Washington	486,774	361,689	7,865	8	—
West Virginia	392,777	322,819	—	8	—
Wisconsin	650,413	674,532	14,207	—	12
Wyoming	49,419	51,921	—	—	3
Totals	25,610,946	22,018,177	340,705	432	99
Per cent of total vote	53.4	45.9	.7		

Grand total, popular vote............47,969,828.

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* Includes 496,405 American Labor Party votes, and 239,235 Liberal Party votes.
** Includes 7,799 votes cast for Byrd electors.
*** Includes 135,439 votes cast for anti-Roosevelt Democratic electors.

of votes in eleven states was delayed beyond the regular dates in order to insure ample time for reception of absentee ballots from persons in military service. Consequently, official totals of popular votes were not available in some of these states until as late as Dec. 5. On the basis of nearly complete unofficial returns in mid-November, it appeared that the total popular vote in this election was at least 1,000,000 short of the total of approximately 49,500,000 cast for president in 1940. In the incomplete returns Roosevelt's plurality over Dewey was slightly over 3,000,000, indicating a Roosevelt plurality of about 3,500,000 in the complete vote. This represented a decline of 1,500,000 from his popular plurality over Willkie in 1940. A very substantial part of this reduction in Roosevelt's margin was accounted for by his losses of support in the traditionally Democratic South. On the other hand in some Northern and Midwestern states, notably New York, Michigan, Illinois and Minnesota, the proportion of the popular vote won by Roosevelt was greater than in 1940. As in 1940, minor party candidates were accorded only negligible support.

Two noteworthy aspects of the balloting were the unprecedentedly large totals of votes recorded in some of the large industrial cities and the relatively high proportion of absentee votes. The record-breaking totals of votes in industrial centers was due to two factors: increase in potential voting population as a result of inmigration of war workers, and the zeal displayed by labor's Political Action Committee in getting voters to the polls. Approximately 3,500,000 men and women in military service out of an estimated 10,000,000 eligibles participated in the presidential election by state and Federal absentee ballot. The number of absentee voters was further swelled by reason of great wartime shifts in civilian population within the country. While many of these migratory workers were able to establish residence and vote in the states to which they had moved, large numbers retained their old community ties and cast their votes by mail under the provisions of state absentee voting laws. It is probable that close to 10 per cent of the ballots voted in the 1944 election were cast by citizens absent from their home voting districts on election day.

VOTE OF THE STATES FOR PRESIDENT

Based on compilations made by the Associated Press in mid-December, results in the voting for President will be found on the preceding page.

THE PRESIDENT AND HIS POLICIES

By Everett S. Brown
Professor, University of Michigan

ANNUAL MESSAGE

President Roosevelt's annual message to Congress on Jan. 11, 1944, although dwelling largely on domestic problems, opened with a brief review of recent developments in the field of foreign affairs. He emphasized the fact that the United States and the Allies were united in determination that the war should not be followed by another interim leading to a new disaster. He denied, however, that Secretary of State Hull or he had any commitments for the future which might pledge the United States to secret treaties, or to enact the role of "Santa Claus." Agreement had been reached, he said, that "the best interests of each nation, large and small, demand that all freedom-loving nations shall join together in a just and durable system of peace." As on earlier occasions the President declared that "an equally basic essential to peace is a decent standard of living for all individual men and women and children in all nations."

In order to win the war and to maintain a fair and stable economy at home, President Roosevelt recommended that Congress adopt: (1) a realistic tax law, which would tax all unreasonable profits, individual and corporate, and reduce the ultimate cost of the war; (2) a continuation of the law for the renegotiation of war contracts, to prevent exorbitant profits and assure fair prices to the Government; (3) a cost of food law, applied to necessities only, designed to assure the farmer a fair price for his products and to set a ceiling on prices the producer must pay; (4) early re-enactment of the stabilization act of October, 1942, which was due to expire June 30, 1944; (5) a national service law, which, for the duration of the war, would prevent strikes and make available for war production or other essential services, every able-bodied adult in the nation.

Maintaining that the political Bill of Rights adopted at the beginning of our Government had proved inadequate to assure us equality in the pursuit of happiness, the President listed a second Bill of Rights upon which a new basis of security and prosperity could be established for all. These rights include: (1) the right to a useful and remunerative job; (2) the right to earn enough to provide adequate food, clothing, and recreation; (3) the right of every farmer to a return for his products which will provide a decent living for him and his family; (4) the right of every business man to be free from unfair competition and domination by monopolies; (5) the right of every family to a decent home; (6) the right to adequate medical care and an opportunity to achieve and enjoy good health; (7) the right to adequate protection from economic fears in old age, illness, accident, and unemployment; and (8) the right to a good education.

BUDGET MESSAGE

In his Budget Message of Jan. 13, 1944, the President pointed out that the rapid increase in war expenditures mirrored a gigantic effort—an effort aimed at the complete defeat of the enemy and at laying the groundwork to return the nation to peaceful pursuits. There was involved also the necessity of initiating the restoration of civilian life and productivity in the liberated areas. The President estimated war expenditures for the current fiscal year at $92,000,000,000 and for the fiscal year 1945 at $90,000,000,000, figures which were tentative because based on the uncertainties of war. Detailed recommendations for most of the war appropriations were deferred until later.

Referring to demobilization the President asserted that the problems of adjustment covered a wide-contract termination, reconversion of war plant, disposal of government-owned property, shifting of men to peacetime employment, and many others. To achieve the objective of a permanently high level of national income and a correspondingly high standard of living, would require, according to the President, concerted efforts by industry, labor, and government, and a well-planned demobilization program. Contract termination would become a problem of large magnitude and the policies followed in this respect and in the disposal of surplus property would have a major impact on the speed and effectiveness of the reconversion of industry and of the reemployment of those released from war service and war production. The disposition of war surpluses, continued the President, should be closely coordinated with the permanent management of government property. Toward the accomplishment of this end he expressed the hope that machinery for the permanent management of government property could be established in the very near future.

With respect to the demobilization of war workers and members of the armed forces, President Roosevelt declared it was imperative that we be on guard against any weakening of the administrative agencies which have been established for the purpose of job placement, counseling, and training. He urged that a unified national employment and counseling service be maintained during the demobilization period.

Our reconversion policy, the President asserted, should have as a major aim the stimulation of private investment and employment. He added, however, that there would be an urgent need for certain public works in the post-war period, since, as a result of the war, the normal construction of Federal, state and local governments had been curtailed. He hoped that adequate machinery for the general planning and evaluation of public works in relation to broader economic activities could be established at all levels of government and that there could be close coordination both in planning and in completing essential projects.

As part of his reconversion program the President repeated his previous recommendation that Congress provide mustering-out pay for every member of the armed forces and a reasonable educational and training program to enable those demobilized from the armed forces to further their education and training and to prepare for peacetime employment. He also favored extension of the Federal Old-Age and Survivors Insurance system to many groups now denied protection and its amendment to give those in the armed forces credit for the period of their military services. He asked that the present unemployment insurance system be strengthened to provide the necessary protection to the millions of workers who might be affected by reconversion of industry. He suggested that Congress consider the establishment of unemployment insurance for maritime employees.

SOLDIER VOTE

In a message to Congress on Jan. 26, 1944, President Roosevelt expressed concern over the fact that the majority of the 11,000,000 members of the armed forces of the United States would be deprived of their right to vote in the elections of 1944 unless Congress promptly enacted adequate legislation. After reviewing the situation resulting from complex state laws, he recommended a complete change of machinery for absentee balloting, which would give the members of our armed forces and merchant marine all over the world an opportunity to cast their ballots without time-consuming correspondence and without waiting for each state to hold its primary, print its ballots, and send them out for voting.

In a later message, on March 31, the President stated that he was permitting the Soldier Vote Bill to become law without his signature. He criticized the bill as "wholly inadequate to assure service men and women as far as is practically feasible the same opportunity which they would have to vote if they were at home." He appealed to the states to cooperate to make the bill as fully effective as its defective provisions would allow. He further appealed to Congress to amend the bill so as to authorize service men and women who had not received their state ballots by an appropriate date to use the Federal ballot without prior express authorization by the states.

G. I. BILL OF RIGHTS

In signing the bill for veterans' benefits on June 22, the President issued a statement outlining those benefits, including educational opportunities, loans, unemployment allowances, and machinery for effective counseling. He asked Congress to add to these benefits by the extension of Social Security credits under the Federal Old-Age and Survivors' Insurance Law to all service men and women for the period of their service. He also expressed the hope that Congress would soon provide similar opportunities for post-war education and unemployment insurance to the members of the Merchant Marine. Emphasizing the need for a sound post-war economy, the President urged Congress to take prompt action on necessary legislation to facilitate the development of unified programs for the demobilization of civilian war-workers, for their reemployment, for provisions, in cooperation with the states, of appropriate unemployment benefits during the transition from war to peace, and for the orderly disposition of surplus property.

PAYROLL CUTS PLANNED

In a letter of Sept. 19 to Budget Director Harold D. Smith, the President stated that upon the termination of hostilities we must proceed vigorously to liquidate the war agencies and reconvert the Government to peace. In order that the transition from war to peace might be carried forward rapidly, with a minimum of disorder and disruption, he asked Director Smith to re-examine the programs, organization, and staffing of government agencies and to submit to him as soon as possible recommendations for adjusting the executive branch from the needs of war to the needs of peace. Such recommendations were to include plans for the liquidation of war agencies and the reassignment of such permanent or continuing functions as they possessed, the reduction of government personnel to a peace footing, and the simplification and adaptation of the administrative structure to peacetime requirements.

POST-WAR PLANNING

On Sept. 29 President Roosevelt released for publication the text of a letter to Leo T. Crowley, Foreign Economic Administrator, outlining major policies to be put into effect when the military resistance of Nazi Germany had been overcome. These policies extended over the following eight related fields:

1. Export Control. So far as possible without interfering with the successful prosecution of the war with Japan, the FEA should relax controls over exports with a view to encouraging private trade, which, in the President's opinion, could produce a high level of international trade.
2. Strategic and Critical Raw Materials. Curtailment of war production should be made "in such a way as to prevent undue and unnecessary loss to American taxpayers, to best preserve our foreign relations and to strengthen the foundation for a high level of international trade in the future."
3. Preclusive Buying. The Foreign Economic Administration should continue to take all necessary steps to prevent Japan from getting strategic and critical materials for the Japanese war program, but it should limit its preclusive purchasing program to achieving that end.
4. Economic Warfare. Studies of the enemy's war potential and other phases of economic warfare should be reduced and focused on the war against Japan, and should be carried on, as in the past, in close integration with the armed forces.
5. Lend-Lease. Lend-lease supplies should continue to be furnished in whatever amounts are necessary for the most effective prosecution of the war.
6. Surplus Property. Every reasonable measure should be taken to see that no unnecessary surpluses develop out of the procurement by the FEA for lend-lease, UNRRA, or other purposes.
7. Control of the War-Making Power of Germany. Studies being made from the economic standpoint of what should be done after the surrender of Germany to control its power and capacity to make war in the future should be accelerated. This work must be done in cooperation with the Department of State and the military authorities.
8. Reconstruction and Future Foreign Trade. All action necessary or desirable to repair the destruction and devastation of war and to lay the foundation for a secure peace should be taken.

RECONVERSION AND SURPLUS PROPERTY DISPOSAL

On Oct. 3, the President signed the industrial reconversion and surplus war property disposal bills, but with a request for further Congressional action to supplement both measures. He said that the industrial reconversion measure failed to deal adequately with the human side of reconversion. Specifically, Congress had deleted from it provisions to prescribe Federalized minimum standards to govern the amount and duration of unemployment compensation benefits and to expand such benefits to cover 3,000,000 Federal employees. In addition, the President said, Congress had killed the proposed program for providing transportation costs to return a migrant war worker and his family to their original home or to a new place of employment. He expressed the hope that these deficiencies would be rectified promptly.

While stating that he was in accord with the objectives of the bill for the disposal of surplus war property, President Roosevelt asserted that he had considerable doubt whether many provisions of the bill would not make extremely difficult the accomplishment of those objectives. He said there was danger that the confused methods of disposition and the elaborate restrictions imposed by the bill would in many instances delay rather than expedite reconversion and reemployment.

RURAL EDUCATION

Addressing educators, business leaders, and government officials attending the Conference on Rural Education at the White House on Oct. 4, President Roosevelt recommended a program of Federal aid for rural schools as being necessary to raise the educational standards in many communities. He insisted that whatever assistance the Government provided must not involve interference with state and local administration and control. Federal funds, he maintained, were necessary to fill the gap between the educational standard in the richer communities and those in the poorer ones. The money, he said "must purely and simply provide the guarantee that this country is big enough to give to all its children the right to a free education." He blamed low salaries for the exodus of teachers from the classroom and summarized the chief problem of rural education as one of dollars and cents.

END OF WARTIME RESTRICTIONS

In the course of his radio address on Oct. 5, the President declared that "when our enemies are finally defeated, we all want to see an end at the earliest practical moment to wartime restrictions and wartime controls." He urged those who feared that wartime measures, like price and rent control and rationing, might be continued indefinitely into peacetime, to examine the laws, which they would find to be temporary. He declared that "the American people do not need, and no national Administration would dare to ask them, to tolerate any indefinite continuance in peacetime of the controls essential in wartime."

AGRICULTURAL MACHINERY

On Oct. 13, the President called on the War Production Board to provide in its reconversion plans for increased supplies of agricultural machinery to help the farmers to continue their high rate of production to meet the heavy post-war demands for food both at home and abroad. He emphasized that agriculture, despite the handicaps of obsolete or worn-out farm machinery and shortage of labor, had produced more than one-third more food than in the pre-war period, and that its goals had been reached by harder work, longer hours and more intensive use of machinery.

IMPROVEMENT OF POST-WAR MERCHANT MARINE

On Oct. 25 President Roosevelt directed the Maritime Commission to prepare a bold plan for improving the American Merchant Marine and maintaining its future position with modern comfortable low-travel-cost passenger ships and cargo carriers backed up by adequate freight-handling facilities. He called for the building of advance models as soon as available and emphasized that construction and sale of the vessels themselves should be strictly on a competitive bid basis. He said that this was an essential to the strengthening of free competitive enterprise.

COMPULSORY UNIVERSAL SERVICE

In response to questions at his news conference on Nov. 17, President Roosevelt said that he would press for Congressional adoption of compulsory universal service for the country's youth. He declined to state specifically the degree to which such a system should involve purely military training. He laid emphasis on the need for a program of physical upbuilding, declaring that the percentage of men rejected for military and naval service was appalling. He suggested that youth should be taught to take care of itself and said that boys in the Civilian Conservation Corps camps had received great physical advantages.

SOCIAL SECURITY

Although he approved, on Dec. 16, the bill to freeze the Social Security tax at one per cent for the coming year, the President asserted that he did so reluctantly. He reiterated his support of the scheduled rate increase to two per cent and declared that the action of Congress had merely deferred necessary financing arrangements for another year. He added that at an early date he planned to submit to Congress a comprehensive plan for broadening and improving the Social Security system. He expressed the hope that at that time a long-term plan for allocating the costs of social security would be developed.

WAR REFUGEES

By Executive Order of Jan. 22, 1944, President Roosevelt set up a War Refugee Board, composed of Secretaries Hull, Morgenthau, and Stimson, "to take action for the immediate rescue from the Nazis of as many as possible of the persecuted minorities of Europe—racial, religious, or political." He stated that he expected to obtain the cooperation of all members of the United Nations and other foreign governments in carrying out this task.

On June 12 the President sent a message to Congress referring to the action he had taken in January and stating that not only had refugees been evacuated from enemy territory, but many measures had been taken to protect the lives of those who had not been able to escape. He reported further that arrangements had been made to bring to the United States approximately 1,000 refugees who had fled from their homelands to southern Italy. He added that they would be placed in a vacated Army camp and, upon the termination of the war, would be returned to their homelands.

ILO DECLARATION

Addressing the delegates of the International Labor Organization Conference, representing 44 countries, who called on him on May 17 on their way from the adjourned conference at Philadelphia, President Roosevelt likened their declaration to the Declaration of Independence. He said that a central aim of national and international policy should be the attainment of "the right of all human beings to material well-being and spiritual development under conditions of freedom and dignity and under conditions of economic security and opportunity," and added that the worthiness and success of international policies would be measured in the future by the extent to which they promoted the achievement of this end. He said that, for the first time in history, the delegates to the ILO had set out in a form which could be adopted as a treaty, a particular series of social objectives, including "full employment, wages and working conditions calculated to insure a just share of the fruits of progress to all, the extension of social security, the recognition of the right of collective bargaining, provision for child welfare and the assurance of adequate educational and vocational opportunities." He assured the delegates that our Government would do everything in its power to see that the provisions for the attainments of these social and labor objectives would be included in the pattern for formulating certain aspects of the peace.

CALL FOR BRETTON WOODS CONFERENCE

On May 20, President Roosevelt issued a call for a United Nations Monetary and Financial Conference beginning July 1 at Bretton Woods, N. H., to formulate proposals for an international monetary fund and possibly a Bank for Reconstruction and Development. At his press conference the President pointed to the international meeting as one of a series at which the Allies were considering major post-war problems before peace comes.

On June 23, in announcing the personnel of the American delegation to the conference, President Roosevelt admonished the delegates that theirs "was the responsibility for demonstrating to the world that international post-war cooperation is possible." He stated that, while the conference would make an effort to reach an international agreement on definite proposals for an International Monetary Fund and possibly a bank for reconstruction and development, the agreement would not be binding either morally or legally on the governments represented, but would be referred to the respective governments for adoption or rejection.

PLAN FOR WORLD SECURITY

In a statement issued on June 15, the President reported that conferences had been held from time to time during the preceding 18 months on the question of a post-war security organization. He said that, since the maintenance of peace and security must be the joint task of all peace-loving nations, efforts had been made to develop plans for an international organization comprising all such nations. The plan contemplated "a fully representative body with broad responsibilities for promoting and facilitating international cooperation, through such agencies as may be found necessary to consider and deal with the problems of world relations." The plan called also for a council, elected annually by the fully representative body of all nations, which would include the four major nations and a suitable number of other nations. The council would concern itself with peaceful settlement of international disputes and with the prevention of threats to the peace or breaches of the peace. There would also be an international court of justice to deal primarily with justifiable disputes. It was not intended, the President said, to establish a superstate with its own police force but an agreement was being sought through which the nations would maintain, according to their capacities, adequate forces to meet the needs of preventing war and of making impossible deliberate preparation for war, and to have such forces available for joint action when necessary.

DUMBARTON OAKS CONFERENCE

Speaking informally on Aug. 23 to the delegates to the Dumbarton Oaks Conference, President Roosevelt expressed the hope that "in planning for the peace that is to come we shall arrive at the same good cooperation and unity of action as we have in carrying on the war." He added that a peace must be made which would last and in which the larger nations would work in unison in preventing war by force. At his press conference a week later, the President stressed the point that the important thing to keep in mind was the objectives of the Conference rather than the details of how the objectives were to be attained. One objective to which all people should subscribe, the President said, was the need for an organization "to step on wars before they grew up." Toward this end there must be some sort of a small international body to act quickly in case any nation in the future started kicking over the traces.

On Oct 21, in an address at a dinner of the Foreign Policy Association in New York, President Roosevelt said that the Dumbarton Oaks Conference did not spring up overnight but had been called by Secretary Hull and himself after years of thought, discussion, preparation, and consultation with our Allies. Stressing the need for international cooperation, he declared that never again "can we wash our hands of maintaining the peace for which we fought." He reiterated his statement that Secretary Hull and he had not, and could not, commit the nation to any secret treaties or any secret guarantees which are in violation of the Constitution. However, he maintained that the Council of the United Nations must have power to act quickly and decisively, if necessary to keep the peace, and toward this end the American representative must be endowed in advance by the people themselves, "by constitutional means through their representatives in the Congress, with authority to act."

LEND-LEASE POLICY

In submitting his seventeenth report to Congress on lend-lease operations on Nov. 24, President Roosevelt said that, while lend-lease aid should end with the war, the United Nations' partnership must grow stronger and permanent so that these countries could provide for security against aggression, build the economic foundations for a more prosperous world, and develop "wider opportunities for civilized advancement for the American people and for all other peace-loving peoples of the world." In discussing the reverse lend-lease from Great Britain he pointed out that we are not loaning money under lend-lease, nor are we receiving payments on account of reverse lend-lease. Instead, the lend-lease system was one of combined war supply, the sole purpose of which was to make the most effective use against the enemy of the combined resources of the United Nations, regardless of the origin of the supplies or who used them against the enemy.

In language regarded as having importance in connection with the ultimate settlement of lend-lease obligations, the President declared that "neither the monetary totals of the lend-lease aid we supply, nor the totals of the reverse lend-lease aid we receive are measures of the aid we have given or received in this war." That, he asserted, could be measured only in terms of the total contributions toward winning victory of each of the United Nations. The report showed that the United States supplied the United Kingdom with about $8,000,000,000 of aid during the two-year period in which the United Kingdom supplied our forces with about $2,500,000,000 of assistance. The report included considerable hitherto secret information on aspects of combined operations which could not be published for security reasons. These included additional details regarding the development of the "synthetic harbors" used to supply our troops at the Normandy beach-head, the long-life spark plug developed by the British and adopted by our Air Forces, and the disposable paper gasoline tank which made possible fighter support for our long-range bomber missions into Germany.

ROLE OF UNRRA

In his first quarterly report on American participation in the United Nations Relief and Rehabilitation Administration, issued on Dec. 5, President Roosevelt told Congress that, while 100,000,000 people liberated in Europe would themselves produce more than 90 per cent of the food and clothes they need, effective aid was needed from the United Nations if famine and pestilence were to be prevented from sweeping across large areas, taking millions of lives and endangering Allied victory. Paying tribute to the resistance of the victims of oppression the President said the world owed a debt to the heroic peoples who fought the Nazis from the beginning. He reported that, while Allied armies had carried with them emergency supplies to meet the most immediate needs, this military relief could not be more than of an emergency and very limited nature, so that the heavy burden would fall on UNRRA, which was undertaking operations in the field as soon as military conditions permitted. UNRRA's staff was described as being, in effect, an international civil service.

POLICY TOWARD GERMANY AND JAPAN

Returning to Washington on Aug. 17 from an extended tour of the Pacific, President Roosevelt asserted that Germany and Japan would be occupied by Allied troops regardless of when or how they surrendered. He said there would be no repetition of the 1918 situation when Germany escaped full occupation by quitting when her homeland was menaced. As for Japan, the President declared that that country must be sealed off from the peace-loving world until she proved herself willing and able to live with peaceful nations. Amplifying the theme of a speech which he had previously made at Bremerton, Wash., he said that permanent defenses must be spread the full Pacific length of the Americas to checkmate any future aggression.

From Quebec on Sept. 16, the President and Prime Minister Churchill issued a joint statement reviewing briefly the results of their second conference, saying that they had discussed all aspects of the war against Germany and Japan and had reached decisions on all points, including the final combined assault on Japan.

POLICY TOWARD ITALY

President Roosevelt and Prime Minister Churchill, on Sept. 26, released a press statement covering discussions of post-war policies. Concerning Italy, they said that encouragement should be given to those Italians who were standing for a political rebirth in Italy and were completing the destruction of the Fascist system. They reported that an increasing measure of control would be gradually handed over to Italian administration, subject to its proving it could maintain law and order and the regular administration of justice. In addition to the relief of hunger and sickness and fear in Italy, it was proposed that steps should be taken to put the resources of Italy into the struggle to defeat Germany and Japan, and to speed the day when free elections could be held throughout Italy, and when Italy could earn her proper place in the great family of free nations.

On Oct. 4, the President issued a statement in which he disclosed that a delegation of supply officers had been called from Italy to Washington to review the needs and requirements of the Italian civilian population for the coming winter. Substantial quantities of food and clothing had already been shipped and a large shipment of wheat and flour was also scheduled, according to the statement.

On Oct. 12 the President disclosed that problems affecting the civilian administration of Italy were fully discussed by him with Prime Minister Churchill at their conference in Quebec, and that full agreement was reached on the responsibility of the United States and Great Britain to help in the spirit of the guiding principles of the Four Freedoms.

British veto of Count Carlo Sforza as Premier or Foreign Minister of Italy drew from Secretary of State Edward R. Stettinius Jr. a statement, on Dec. 5, that "the position of this Government has been consistently that the composition of the Italian Government is purely an Italian affair except in the case of appointments where important military factors are concerned." He added that we had not intimated that we would oppose the appointment of Count Sforza.

POLICY TOWARD CHINA

Conferences between President Chiang Kai-shek and Vice President Henry A. Wallace, the latter having been sent by President Roosevelt on a special mission to China, were followed by the issuance of a joint press release on June 24, in which our Far Eastern policy was clarified. Basic principles and objectives agreed upon as necessary to enduring peace in the Pacific were: effective permanent demilitarization of Japan; understanding friendship and collaboration between and among China, the Soviet Union, the United States, and the British Commonwealth of Nations; and recognition of the fundamental right of presently dependent Asiatic peoples to self-government, and the early adoption of measures to prepare these dependent peoples for self-government within a specified practical time limit.

In an endeavor to strengthen China's position in the war, President Roosevelt asked Donald M. Nelson to organize a War Production Board in China, and appointed Patrick J. Hurley as ambassador to the Chinese Government.

THE ARGENTINE SITUATION

On Sept. 29, President Roosevelt released a statement expressing his concern over the development of the Argentine situation, which, he said, presented the paradox of the growth of Nazi-Fascist influence and the increasing application of Nazi-Fascist methods in a country in this Hemisphere, at the very time when Nazi-Fascist forces were approaching defeat in Europe and elsewhere in the world.

He asserted that the Argentine Government had repudiated solemn inter-American obligations on the basis of which the nations of this Hemisphere developed a system of defense to meet the challenge of Axis aggression. He considered it important to make his statement because it had come to his attention that the Nazi radio, the pro-Nazi press in Argentina, and a few irresponsible individuals and groups, sought to undermine the position of the American republics and our associates among the United Nations by circulating the vicious rumor that our counsels were divided on the course of our policy toward Argentina.

LATIN-AMERICAN POLICY

In his Columbus Day address to the American Republics on Oct. 12, President Roosevelt declared that the people of the United States would never forget how the other American republics rallied to the common defense when the Axis attack was made on our country. He said that the bonds which unite the American republics into a community of good neighbors must remain strong during the post-war period.

POLICY TOWARD POLAND

In a statement made on Oct. 11 in a conference with a delegation of Poles, President Roosevelt asserted that there could be no question that Poland must be reconstituted as a great nation. Admitting that no one in Washington, including himself, had accurate information about everything that was going on in Poland, he said that the broad objective being sought was excellent and that world opinion would support it.

PLEDGE OF FREE JEWISH STATE

On Oct. 15, in a message to the Zionist Organization of America, President Roosevelt pledged his aid in initiating appropriate ways and means of effecting establishment of Palestine as a free and democratic Jewish commonwealth. He linked his statement with the spirit of the Four Freedoms and pointed out that it was in accord with the traditional American policy.

RECOGNITION OF DeGAULLE

On Oct. 23, the State Department announced its recognition of the *de facto* authority established in Paris under the leadership of General de Gaulle as the Provisional Government of the French Republic, and named Jefferson Caffery as Ambassador to France.

HOME RULE FOR PUERTO RICO

Extension of home rule for Puerto Rico was urged by President Roosevelt in a letter sent on Sept. 4 to Representative C. Jasper Ball, chairman of the House Committee on Insular Affairs. The President asked passage of a bill allowing the Puerto Ricans to elect their own Governor, who, in turn could name other officials, now Federal appointees. "By extending home rule in Puerto Rico," he said, "we would multiply the good we have already gained throughout the Western Hemisphere, as we did among the peoples of the East by our liberal policy toward the Philippines."

ATLANTIC CHARTER

President Roosevelt aroused considerable critical comment by remarking, in reply to a question at his news conference on Dec. 20, that not only had nobody ever signed the Atlantic Charter but that, so far as he knew, there wasn't any copy of the Charter. The nearest thing one could get to the Atlantic Charter, the President said, would be the papers which were given to radio operators aboard the British and American warships with instructions to put their contents on the air. There were signatures, he continued, but none to any formal document. When asked whether the spirit of the declaration was still there, he replied that all who had participated in its composition agreed on it.

At a labor conference the President described the Charter as an objective toward world betterment. He said that its principles were as valid today as they were in 1941 when he and Prime Minister Churchill promulgated the historic declaration. He compared the Charter to other documents which had been presented to the world for many years looking to betterment of life. (For the text of the Atlantic Charter, see THE AMERICAN YEAR BOOK, 1941, pp. 3-4.)

SEIZURE OF MONTGOMERY WARD PROPERTIES

President Roosevelt's order of Dec. 28, directing the War Department to seize properties of Montgomery Ward and Company in seven cities, was based on the charge that the company had failed to assume its obligation and responsibility to our fighting men to see that nothing interferes with the continuity of our war production. The President declared that "the Government of the United States can not and will not tolerate any interference with war production in this critical hour." He charged that Montgomery Ward, under the chairmanship of Sewell Avery, "has waged a bitter fight against the bona fide unions of its employees throughout the war, in reckless disregard of the Government's efforts to maintain harmony between management and labor." The President laid down a basic policy toward management and labor by asserting: "Strikes in wartime can not be condoned, whether they are strikes by workers against their employers or strikes by employers against their Government. All of our energies are engrossed in fighting a war on the military battlefronts. We have none to spare for a war on the industrial battlefronts. It is up to us to uphold and strengthen our machinery for settling disputes without interruption of production. We can not do this in a total war if we permit defiance to go unchallenged."

NATIONAL PERSONALITIES

BY JOHN A. PERKINS
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THOMAS E. DEWEY

Governor Dewey, the Republican Presidential candidate, conducted a unique, successful campaign for the nomination and a not so unique or successful campaign for the high office itself during 1944. When the Republican National Committee met in January, New Yorkers gave the impression that their Governor would accept if nominated, despite his intimations to the contrary. When interviewed at that time Governor Dewey declared: "I am wholly and exclusively occupied with the administration of the affairs of the State of New York," but he also admitted to being aware of the difference between being a candidate for nomination and being the subject of a draft movement. His strategy seemed to be to conduct himself and his state government in such a manner that he would become automatically the logical nominee and would be drafted by the convention.

Speaking at the Lincoln Day Dinner he attacked President Roosevelt with the vigor of an active opponent. Predictions of nomination on the first ballot followed the presidential preference primaries, particularly Wisconsin's where Dewey delegates won in spite of their favorite's asking for their withdrawal and the vigorous campaign competition of Wendell Willkie. Dewey broke his silence on foreign policy (April 28) in a speech declared to be a creditable kick-off for one who would bid for the Presidency in these times by calling for "crushing victory," solid post-war relations among the United Nations, "adequate force" to prevent future wars, and "worldwide economic stability" for high level employment. Three weeks before the convention the Institute of Public Opinion reported that 65 per cent of the Republican voters wanted to see the New York Governor nominated. His managers, operating from the New York State headquarters in the

Convention City, announced soon after arrival in Chicago that Dewey would accept if drafted. They so skillfully organized to that end that all other candidates withdrew in his favor, and he was given the vote of all but one delegate on the first ballot (June 28). While the Dewey nomination in the morning did not bring the to-be-expected fervent convention demonstration, the 42 year old Governor's acceptance speech (the evening of the same day) flaying, the "tired and quarrelsome" Roosevelt administration "grown old in office," aroused the convention to high enthusiasm.

During July and August the Republican candidate planned his campaign with characteristic thoroughness, conferred with delegations of party leaders coming to Albany, and climaxed his efforts to unify, organize, incite, and set in motion Republican state and county political organizations by leading a conference of Republican Governors (St. Louis, Aug. 2-3) in consideration of the "costly" conflicts between the national and local governments. Opening his formal campaign in Philadelphia (Sept. 9) Candidate Dewey charged that the New Deal was "always defeatist in nature" and was afraid of the problems of peace. From there he traveled leisurely to the West Coast, neglecting to give back-platform speeches but broadcasting before throngs at Louisville on foreign policy (Sept. 10), at Seattle on labor problems (Sept. 18), at Portland on the indispensable man (Sept. 19), at San Francisco on a middle-of-the-road policy of business regulation (Sept. 21), and at Los Angeles on broadening the present social security system (Sept. 22). The last speech on this trip, Oklahoma City (Sept. 25), differed from the previous cautious expositions on New Deal errors and proposed Republican remedies. It was a vigorous retort to the President's first openly "political" speech into which Republicans claimed Dewey had goaded him.

The Governor stepped up the tempo of his "attack" in October and gave special attention to the "doubtful" states. In Charleston, W. Va. (Oct. 7), he declared that the Communists backed the New Deal because "their aims can best be served by unemployment and discontent." In St. Louis (Oct. 16), he asserted our affairs abroad were "on the brink of chaos." While Governor Dewey lauded the Dumbarton Oaks security plan as a "fine beginning," his failure to speak concretely on such questions as the power of the U. S. delegate on a Security Council to commit our military quota without further Congressional approval decided Senator Ball (Rep., Minn.) to bolt his party. When Dewey spoke in Minneapolis (Oct. 24), he relegated a farm speech prepared for the occasion to a Syracuse rally (Oct. 28) and delved into foreign policy showing concern for the smaller nations, particularly Poland, charging the Administration with doing its bit in the early thirties toward defeating international cooperation, and declaring the President's inability to work with Congress would make it impossible for him "to meet the mighty problems of peace." The last two weeks of the campaign he devoted to intensive work in his own state, in Pennsylvania, and in New England, winding up with speeches in Boston (Nov. 1) on the "red menace" and with a general review of his stand in Madison Square Garden (Nov. 4). Election eve he made a short, confident appeal, and went next day from Albany to New York City to vote and await the election returns which brought his defeat.

In defeat he took consolation in his nearly 22,000,000 votes, the reduced Roosevelt majority, and especially in his conviction that the Republican party emerged from defeat more united and with a more progressive spirit than it had possessed in years. Accompanied by his wife, who had travelled with him throughout the campaign, and by his sons, he vacationed (Nov. 11-Dec. 5) at Sea Island, Georgia. When asked whether he might try for the presidency in 1948, he declined "even to speculate." Although his leadership may be challenged by the more conservative and the more progressive within his own party, Governor Dewey's career proves he is not discouraged by defeat.

CORDELL HULL

Cordell Hull, after serving as Secretary of State longer than any predecessor and in a time of unequalled difficulty, resigned with "inexpressible disappointment" in November because of ill health. Between his chairmanship of the American delegation to the London Economic Conference in 1933 and his personal efforts in the formulation of the world security organization plan at Dumbarton Oaks in 1944, he sought a formula for world peace to prevent the present war, developed the Good Neighbor Policy in Latin America, sponsored a program of reciprocal trade agreements, and conducted the fateful pre-Pearl Harbor negotiations with Japan—to mention a few notable activities of his administration.

In 1944, an election year, ill health and momentous international conferences notwithstanding, Secretary Hull endeavored to keep United States foreign policy from becoming a political football in the campaign and to secure the "advice and help" rather than the opposition of Congress in planning the peace.

In a radio debate with Senator Vandenberg (Jan. 30) Hull declared: "Senator Vandenberg and I are in complete agreement that effective cooperation between the Executive and Legislative branches of the government is . . . indispensable. . . ." To this end he met with the Senate Foreign Relations Committee and discussed "whatever they wanted discussed" and invited 24 first-term Republican members of the House to confer with him. In May a bi-partisan liaison committee of the Senate, which had been set up at Secretary Hull's suggestion, was reported to have reached a preliminary accord with him on the broad principles of a post-war international peace organization. With this same group he agreed in September that the central question of United States foreign policy was "how to reconcile the need for swift collective action against future aggressors with the constitutional prerogative of Congress to declare war."

Although conciliatory the Secretary did not hesitate to correct Republican misstatements. When Dewey charged (March 27) the State Department had requested Britain to suppress political news sent home by American correspondents, he declared the Governor was "100% wrong." When the Republican Candidate insinuated that the four great Allied powers intended to dominate the post-war world by force, Secretary Hull assured him (Aug. 7) that the United States had never contemplated establishing a four-power military alliance to coerce the rest of the world and invited the Republican nominee to discuss the security problem with him "in a non-partisan manner." This led to gratifying conversations between a representative of Governor Dewey and the Secretary of State after which both expressed the need for non-partisanship and national unity in the making of the peace.

After months of study by Secretary Hull, reorganization of the State Department was effected in January, 1944, and responsibilities of top officers were readjusted to meet enlarged tasks. Among these tasks were the Bretton Woods monetary conference and the Dumbarton Oaks conference on security organization. Hull expressed confidence in the achievements of both but cautioned (Oct. 10) when the latter meeting made its results public that the proposals were "neither complete nor final" and were open to modifications after "full discussion by the peoples of all countries."

The Secretary of State's "good neighbor" and "hemispheric solidarity" policies were disturbed throughout the year by the presence of a military dictatorship in Argentina. He rejected the idea of a conference to reconsider anew the question of Argentina's (June 22) recognition proposed by his former deputy and erstwhile rival, Sumner Welles. Hull branded (July 27) that state as one which abandoned its neighbors in an hour of need and which aids the enemies of the United Nations by serving as headquarters of the fascist movement in the Americas (Sept. 7).

Although Secretary Hull vacationed in Florida in March and rested for a week in the summer, illness overtook him Oct. 3, the day after his seventy-third birthday. It did not, however, keep him from hailing his chief during the course of the fourth-term Presidential campaign as "a statesman equipped by nature and experience" to meet the problems involved "as few statesmen have been equipped throughout our history." When complications developed, the ailing Secretary advised the President (Nov. 26) that, although it was a supreme tragedy to him personally, he would be unable to continue to work for post-war world organization. Accepting his resignation President Roosevelt put the capstone on Cordell Hull's 51-year political career by hailing him as the "father of the United Nations."

EDWARD R. STETTINIUS, JR.

Edward Stettinius, former Chairman of the Board of Directors of the U. S. Steel Corporation and Lend Lease Administrator, after serving slightly more than a year as Under-Secretary of State, during which time he helped reorganize the Department, headed a mission to London, and acted as host at the Dumbarton Oaks security conference, was appointed Secretary of State Nov. 27, 1944. His promotion, which made him the second youngest man (44 years) to hold this post, pleased retiring Secretary Hull and was attributed to his proven ability.

Early in the year (Jan. 15) the Under-Secretary busied himself with work on administrative changes in the State Department to make it "efficient and smooth-running" and urged legislation to extend the Department's cultural relations activities to cover the world as an aid to war problems and those of the post-war period. Accompanied by a staff of experts he spent six weeks in England in the spring "exploring" a wide range of policy topics with British and other Allied leaders. Upon his return (May 5) he declared that the United States and Britain would maintain unity despite differences that might arise, that many matters had been ironed out, and that his visit had turned out to be much more important than he had thought it would be. Following the Hull policy of keeping Congress informed, Stettinius spent two hours reporting the details of his mission to the Senate Foreign Relations Committee.

The Under-Secretary was designated in July to head the United States experts in the four-power negotiations on security organization. To him fell the added responsibility of acting as host to the 39 delegates and he did so with great aplomb and informality, treating his guests one week-end to a businessman's holiday in Manhattan. When the conference adjourned, he reported (Oct. 10) that much work remained to be done, and he then set about the task of acquainting the public with the projected security organization.

During the absence of his chief, Stettinius served as Acting Secretary but when Hull resigned, the Under-Secretary was thought of by others as he thought of himself, primarily as a businessman rather than a politician, and was considered to have little chance for the Secretaryship against contenders like Justice Byrnes and Vice President Wallace. Always popular on Capitol Hill (Congressmen of both parties had mentioned him for Vice President), his nomination was quickly confirmed by the Senate.

Upon taking oath of office (Dec. 1) he paid tribute to his predecessor and pledged himself to the same "high principles." Three days later three assistant secretaries were replaced, soon two additional ones were appointed, and further "streamlining" of the State Department was undertaken. During his first week in office Stettinius declared that the United States believed liberated countries should "work out their problems of government along democratic lines without influence from outside," thereby criticizing Great Britain by implication for intervention in Italy and later in Greece. Appearing before the Foreign Relations Committee (Dec. 12) to urge Senate confirmation of the men whom he and the President chose to complete "the team" in the reorganized State Department, the Secretary declared his major objectives to be concerned with fullest cooperation of foreign relations with our armed forces, with prevention of Germany and Japan from again acquiring power to wage aggressive war, with establishment of a United Nations organization to build and maintain peace by force if necessary, and with expansion of foreign trade and the democratic way of life throughout the world.

WENDELL L. WILLKIE

During 1944 Wendell Willkie fought a series of losing fights. He fought hard for the Republican Presidential nomination, the prize he captured so easily in 1940; he fought still harder to force his liberalism and internationalism upon the G.O.P.; and somewhat weakened by these efforts, he lost his fight for life itself on Oct. 8.

Willkie was assailed as a "political gambler" by *Pravda* (Jan. 6) for his well-meaning article, "Don't Stir Up the Russians," in which he asked for a tolerant attitude toward them but also recognized the misgivings felt by his countrymen concerning Russia's intentions toward small states around her borders. Following his habit of unorthodox plain speaking this aspirant for public office astounded "practical" politicians when he recommended (Feb. 2 of an election year) a much heavier wartime tax program which would actually lower the American standard of living during the war so that afterwards enterprise could start off without the handicap of a war-inherited debt.

In February he started his campaign for the Republican candidacy by entering the Wisconsin, Nebraska, and Oregon Presidential primaries and by visiting seven states reputedly supporting him on his trip to Tacoma, Wash. where he made a Lincoln Day address. Because Wisconsin was reported to be an isolationist stronghold and he was thought to have less strength in the Midwest than elsewhere, Willkie deliberately chose to make a fight there for delegates, believing that a victory would greatly strengthen his candidacy and force acceptance by the G.O.P. of his internationalist principles. For two weeks before the April 4 primary in Wisconsin, Willkie stumped the state. Hitting at Governor Dewey by implication, although he stated the Republicans must depend upon principles instead of personalities, he insisted that all who seek the voters' preference should discuss the issues. He denounced the ultra conservative element and urged repudiation of "the party's back room boys," declaring that through silence and opposition to a liberal program they would cause the people to go along with Roosevelt. When the would-be candidate was overwhelmingly defeated, he withdrew from the nomination race at the close of his address in Omaha, Neb. (Apr. 5) but declared he would continue to fight for his beliefs.

Although he received no bid to address the Republican National Convention, the 1940 Republican standard-bearer was asked by six Republican newspapers to write a series of articles on subjects due to come before the platform committee. In them he called for downward revision of the tariff, international currency stabilization, social security for all, Republican championing of protection for labor, and declared the states' rights issue dead. He embodied the gist of these articles in a suggested Republican platform draft differing radically in content and style from the one adopted, but his representatives never had a chance to present it to the Convention. These articles, plus his proposed platform, were later published as a political pamphlet entitled *An American Program* for the voter's perusal before the election, Nov. 7.

His views ignored and Dewey nominated, Willkie withheld endorsement and embarked on a campaign to force both the Republican and Democratic candidates as far out into the open as he could on foreign and domestic issues. Meeting (Aug. 22) with John Foster Dulles, Governor Dewey's foreign affairs adviser, the 1940 presidential nominee urged that Republican support be rallied behind efforts to make the Dumbarton Oaks postwar security conference a success. President Roosevelt reputedly twice invited him to confer "off the record" but he did not accept.

On Sept. 6 he was hospitalized for rest and treatment and while responding favorably contracted a throat infection which fatally weakened his heart. Before a respectable interval had passed after his death (Oct. 8) speculation was rife concerning which Presidential candidate he would have supported. Senator Ball has written of Wendell Willkie: "Though he died in the midst of the fight, his example will inspire others . . ."

JAMES F. BYRNES

Excepting the Chief Executive, James F. Byrnes, so-called "deputy president" responsible for the home front, probably carried the heaviest official load in Washington in 1944, first, as Director of War Mobilization and later of Reconversion as well.

After receiving the Baruch-Hancock reconversion report, he worked continuously and skillfully with Congress, reassuring it that post-war programs would not be inaugurated by executive decree but would be based on legislation, and urging it repeatedly to enact needed laws for demobilization. When the machinery was enacted substantially as Byrnes had advised, the President persuaded him to postpone his planned return to private life and to continue as director of the enlarged Office of War Mobilization and Reconversion until victory in Europe. His former Senate colleagues immediately and unanimously confirmed his nomination to these new responsibilities amid praise for his services (Nov. 16). While his work was appreciated generally, particular groups, especially labor, were disgruntled by his decisions made to hold the line against inflation. These efforts cost him the Vice-Presidential nomination at the Democratic National Convention where the former South Carolina solon and ex-justice of the Supreme Court was a strong contender until labor leaders rejected him for the post and he withdrew "in deference to the President's wishes."

During the campaign, when Governor Dewey charged that the Administration feared peace, Director Byrnes promptly issued (Sept. 11) a much commended report on the Government's plans for returning to a peacetime economy or at least to something less than a total war economy after the defeat of Germany. The Director of OWMR appealed (Oct. 30) to the American people not to vote for a change in administration "which would inevitably delay the winning of the war and jeopardize the peace for which our boys are fighting and dying." When Secretary Hull's retirement became imminent, the former Justice was considered his most likely successor because he was from the South, was the favorite of Congress, and was respected by the President who owed him a great debt, but he was not appointed. Relegating his dispute-settling function to second place (Dec. 10), Director Byrnes undertook more active direction of the production, manpower, and other economic phases of the lagging war effort as well as reconversion.

ARTHUR H. VANDENBERG

Senator Vandenberg (Michigan) devoted himself to party as well as governmental affairs in 1944, but, outside of his sponsorship of General Douglas MacArthur for Presidential nomination, his concern in both spheres was largely with foreign policy.

Vandenberg entered into party affairs in several ways. In interviews and signed articles he urged MacArthur's nomination. As chairman of the Republican conference, he called a special meeting of Republican Senators in July and recommended that Congress reconvene because prospects of an early German defeat "are such that immediate consideration of reconversion legislation is advisable." A London newspaper queried him on what Republican policy would be if a change in administration occurred. Declaring he could not speak for his party, the Michigan Senator stated that his personal view was that the Republicans would be true to the Mackinac pledge for "responsible participation by the United States in post-war cooperative organization" but would not join a world-state and would protect legitimate American self-interest. Those personal views became those of his party, however, when he drafted the foreign policy plank in the Republican platform in June. In the course of the Presidential campaign he visited Candidate Dewey in Albany (July 7) and conferred with the latter's adviser on foreign affairs, John Foster Dulles (Aug. 24).

Senator Vandenberg as a Republican member of a select sub-committee of the Senate Foreign Relations Committee was assigned to study a post-war peace enforcement program with Secretary Hull. Early in the year (Jan. 30) he had debated with the Secretary of State the question of whether Congress and the country were kept properly informed on our relations with Tokyo prior to Pearl Harbor and maintained Congress had not been given the "remotest information" about the realities. Apparently feeling more informed (Feb. 17) when the appropriation for participation in UNRRA was debated in the Senate, Vandenberg vigorously defended it. He emphasized that it was "utterly fantastic" to believe that enemy nations might possibly benefit under the resolution as worded. While the Senator seemingly approved the Dumbarton Oaks Conference at the outset and urged military force to prevent future aggression, he was reported (Sept. 6) to be the leader of a Senate group which objected to the United States delegate being free to vote in favor of the use of United States troops outside the Western Hemisphere in any action that might lead to a major conflict without the specific consent of Congress. Vandenberg was also the chief congressional advocate of the law against freezing the social security tax at one per cent.

SIDNEY HILLMAN

Sidney Hillman, for 30 years the president of the powerful Amalgamated Clothing Workers, became one of the most important politicians in the United States during 1944. His position derives from his chairmanship of the CIO's Political Action Committee, organized in July, 1943, for the purpose of arousing American workers "to a sense of their own responsibility as citizens of this nation and . . . in a free world."

Hillman's first political foray began in January, 1944, when he proposed to widen the trade union base of New York State's American Labor Party. He was charged by the so-called "right wing" of that party with forming a coalition with Communists and seeking to create a narrow trade union party. No accord was reached, and Sidney Hillman's "left-wing" group, supported by the CIO, emerged completely victorious in the March 28 primary. He claimed the size of the vote vindicated his efforts to democratize the party's leadership and shattered the fiction, developed by the opposition, that if defeated it would be as a result of a Communist vote. He extended the olive branch and, flanked by other unionists, took over as chairman of the New York State committee on April 9.

The activities of the P.A.C. in the spring primaries brought charges of violation of the corrupt practice acts. Attorney General Biddle opined that all expenditures had been made as Hillman had ordered "in strict conformity with all provisions of the law, particularly with the requirements of the Smith Connally Act." Defending the legality of Labor's political activities before the Senate Committee on Campaign Expenditures, Hillman declared that his work was to continue beyond 1944, that it was for political *education* and that there was no intention of forming a third party or becoming an appendage of either major political party. Nevertheless, the enthusiasm of P.A.C.'s Chairman for a fourth term and his reputedly great influence in the Democratic convention (it was gossiped that the President ordered his political lieutenants to "clear everything with Sidney") made it difficult for him to establish in the public mind the belief that his organization was non-partisan in nature. However, when he was billed by the *Herald Tribune* Forum to "represent the Democrats," he withdrew, declaring that he had no authority to speak for that party but only for his progressive non-partisan organization. Although Hillman's group was unable to renominate Vice President Wallace at the Democratic Convention, their opposition killed the chances of Byrnes while Senator Truman succeeded in gaining the nomination with their approval.

In June the National Citizens' P.A.C. was formed under Hillman's leadership and made it easier for people outside unions to cooperate. Through money raised by this group, which was in no danger of violating the Smith-Connally Act, plus contributions of individual union members to the P.A.C., Hillman led a vigorous campaign in which organized labor was more politically active than ever before. Shortly after the election (Nov. 17), the CIO's executive board voted to continue and "broaden" the P.A.C. and redesignated the Clothing Workers' Chief as chairman. In December Hillman headed a CIO delegation to England where they cooperated with British and Russian union leaders in drafting an agenda for the coming World Trades Union Conference.

HENRY A. WALLACE

Henry A. Wallace busied himself during 1944 keeping the New Deal alive as a political issue, reassuring the Chinese of expanded United States support, and forwarding a fourth term for President Roosevelt, although after a hard fight he himself was denied the vice-presidential renomination by the Democrats.

Before a Southern Governors' conference (Jan. 16), the Vice President gathered favor by declaring that the South had been "kept in a colonial status" by "discriminatory differentials in transportation costs," and "because the expansion of Southern enterprises would compete with other business in which the bankers were already interested."

In a series of West Coast speeches, the most notable at Seattle (Feb. 9), Wallace struck at "American Fascists" and advocated a "general welfare economy." It was believed that the Vice President was campaigning for renomination, presenting himself as the indispensable spokesman for the masses and also endeavoring to hold President Roosevelt to the New Dealism the latter had tried to submerge. However, Henry Wallace's uncompromising consistency and insistence upon discussing vital issues was further emphasized when *Democracy Reborn,* a book of his writings and speeches of the past ten years, was published in June of this campaign year.

When the President dispatched him on a diplomatic mission to pledge more aid as soon as possible to China, his political enemies hoped he would be in Asia at convention time. Having visited soldiers as well as having found mutual agreement with the Chinese leaders, the Vice President arrived home to address the country from Seattle (July 9) on the post-war "era of the Pacific," promising a new frontier for trade.

By July 18 he was in Chicago as chairman of the Iowa delegation to fight personally for his own renomination and to second the nomination of his Chief in a forthright plea for continued liberalism in the Democratic party. Although backed by Labor and an equivocating endorsement by President Roosevelt, he was defeated on the second ballot by a combination of "organization" and Southern delegates. Notwithstanding the fact that his rejection "terribly hurt" him, Henry Wallace continued his "liberal" fight within the Democratic party. He made more speeches urging Roosevelt's reelection than any other major figure and made a joint appearance with Vice Presidential Candidate Truman (Oct. 31) in Madison Square Garden. Far from a forlorn figure as his own term closed, he hailed the Democratic victory as indicating "a country confident, moving full steam ahead."

HARRY S. TRUMAN

Nine years and nine months after Harry S. Truman entered the United States Senate as the "placeman" of "Boss" Pendergast and three years after he became chairman of the famed Senate War Investigating Committee, he was elected to the Vice Presidency of the United States at the age of sixty.

Although Truman's committee had been the harshest public critic of the efficiency of the Administration's war program, direct personal responsibility for grave defects had never been placed upon the President. In this work as in his first term the Missouri Senator supported Roosevelt consistently. His only deflection was his objection to the renomination of Maurice Milligan, the United States district attorney who convicted Pendergast's "ward leaders." He urged the reelection of President Roosevelt on March 22, stressing his confidence "in our leadership both civilian and military" and expressing his conviction in its continuance "until the job at hand is completed." Earlier speeches at Jacksonville (Feb. 14) and Topeka (Feb. 22), stressing the idea that "a Democratic defeat at the polls this year would hamper, delay and confuse the conduct of the war, perhaps imperil the peace," roused the Republican minority on the Investigating Committee to insist that Truman make it plain he was not speaking for the committee, but stating his own political views.

When President Roosevelt agreed not to dictate Wallace's renomination and gave to National Chairman Robert E. Hannegan and dissident Southerners and conservatives an opportunity to pick a running mate for him more nearly of their views, Harry S. Truman was settled upon. After the Chief Executive declared that Truman would "lend great strength to the ticket," the heretofore undistinguished farm boy, soldier, and senator with the "plain folk's" manner was nominated on the second ballot. Shortly thereafter (Aug. 3) he resigned as chairman of the War Investigating Committee.

In carrying his end of the campaign the Senator compared Dewey to Harding, charged him with straddling the issues, and contended that there was no satisfactory substitute for Roosevelt's experience in military affairs and foreign policy. In an article in *Collier's* magazine in late August he advocated the merger of the Army and Navy Departments, denouncing their present rivalry as "an open invitation to catastrophe," and cited Pearl Harbor. He thus unwittingly brought responsibility for this tragedy to public attention to the embarrassment of the Democrats. Late in the campaign he caused a rift in Democratic harmony by referring to Massachusetts' Senator Walsh as an isolationist after the latter had somewhat reluctantly given his support to the national ticket. With Franklin Roosevelt seeking a fourth term in his sixty-second year the Vice Presidency assumed more sizable political proportions, and the measurements of the Democratic nominee for the job were carefully taken by the Republicans, but however much they may have found him to fall short, he was elected Nov. 7, 1944.

JOHN W. BRICKER

Failing to secure the Republican presidential nomination, Governor John W. Bricker of Ohio agreed to accept the second place on his party's ticket. As vice-presidential nominee he traveled widely, making speeches assailing the New Deal, and firing the enthusiasm of the Old Guard of his party.

In an all out effort to be chosen Republican standard bearer the Ohioan campaigned from one end of the country to the other in the first six months of the year. Starting off with a Lincoln Day speech in Washington, D.C., which Senator Taft said made a "good impression," Bricker then toured New England. Invading Oklahoma (March 27), Bricker criticized Senator Barkley for his inconsistency in supporting a New Deal congressional candidate after his recent repudiation of the President's veto of the tax bill. On a nine-day speaking trip (Apr. 10-19) to the Pacific Coast he promised a place for the West in the Cabinet and a war to the "last Jap" before the East is reconverted. In his principal Eastern pre-convention address on foreign policy (Apr. 25), the presidential aspirant came out for a policing of the post-war world by the united military strength of Russia, China, Great Britain, and the United States. At the annual Governors' Conference at Hershey, Pa. he challenged (for Dewey's attention) all potential Presidential candidates to come out into the open with a frank discussion of future policy.

It was only in the early morning hours of the Republican Convention's third day that Bricker decided to withdraw as a presidential contender and consented (the favorite for the office, Governor Earl Warren of California had refused) to be the Republican candidate for Vice-President, a post he had repeatedly declared he was not interested in. This action increased his popularity in the Convention where it was said: "The delegates loved Bricker but married Dewey."

When he was made running mate to Gerald L. K. Smith on the America First party ticket, Bricker vehemently denounced the move while attending the "fence-building" conference of Republican Governors in St. Louis (Aug. 1). After Labor Day, Bricker began his campaign by slashing out against the tie-up of big city machines and the CIO-PAC to keep the New Deal in power. His first tour of a week took him through West Virginia and Pennsylvania to the eastern seaboard. His speeches which constantly referred to "the fundamentals of Americanism" appealed particularly to Old Guard Republicans. October saw Bricker on a 9,250 mile trek through the West covering much of the ground he had been over in his pre-convention campaign and seeking to sooth the ruffled feelings of any towns Dewey had by-passed a few weeks previously. Making 94 speeches in 30 days, he returned to his capital for one night and then set out on a second eastern swing, winding up his campaign on his native heath at Cleveland. After ten months of almost continuous campaigning, Governor Bricker saw the Republican ticket go down to defeat on Nov. 7 and returned to his executive duties in Columbus to complete his waning term.

HAROLD L. ICKES

Reaching three-score-and-ten in March, 1944, Harold Ickes paused only long enough to write an article, "More Than My Share of Excitements," and quickly resumed his prodigious work as Secretary of the Interior, fuel administrator, head of the War Relocation Authority, and pugnacious political spokesman.

Just prior to the Democratic Convention he explained: "Theoretically, I'm not in favor of a fourth term . . ." but he was supporting President Roosevelt now as he did in 1940 because "I didn't know anyone else who had the background and guts and leadership" to carry on with the trials ahead. During the campaign the self-styled curmudgeon took the stump and jibed the Republican candidate for being still in the youthful "romper stage," trying to lead a "Trojan Horse" full of isolationists into the capital, and conducting a "sly campaign" by desperately fanning "the flames of religious hatred." Ickes interpreted the Roosevelt victory to the press as evidence that the newspapers in their opposition to the Democrats were "out of step" with the people and that the press "just didn't count."

Shortly after the War Relocation Authority with its 112,000 West Coast Japanese evacuees was placed under his jurisdiction, the Secretary of the Interior denounced "professional race mongers" and served notice on California, Oregon, and Washington that the agency would "not be stampeded into undemocratic, bestial, inhuman action." As Solid Fuels Administrator, he urged in strong language that the War Labor Board approve the agreement negotiated between the miners and operators. As Petroleum Administrator he initiated governmental construction of a long trans-Arabian pipeline which became the target of sharp criticism from Congress and the oil industry before it was abandoned. To prevent repetition of "the speculators' paradise" which followed the First World War, he suggested that his department with its long experience in handling public lands be given the job of land disposition after this war and that some large tracts be cut up into small owner-operated farms. Before the Commonwealth Club in California (Apr. 14), he urged that government-owned war plants be turned over after the war "as a bonus" to veterans for ownership and operation. During the campaign Ickes wrote a facetious letter of resignation to Governor Dewey "effective if, as and when the incredible comes to pass and you become President," but Nov. 7 the "incredible" did not occur, and Secretary Ickes "fights on."

CLARE BOOTH LUCE

Mrs. Luce, Congresswoman from Connecticut, emerged from this election year the outstanding woman politician. She was a headline speaker at the Republican National Convention and in a month's speaking tour during the campaign proved to be one of the party's outstanding critics of the President. In spite of much Democratic pressure in her Fairfield County district, she was reelected by a small margin.

Her attacks upon the President grew in intensity as the year advanced. In April she charged that the election of Roosevelt for a third term and talk of a fourth had produced a struggle between the Chief Executive and Congress that "has ill served the cause of the American people at war." Alleged failure of the President during his first two terms to implement our foreign policy so that we would be secure from attack was characterized by Representative Luce (May 12) as "the greatest foreign policy failure in our history to date." Before the Pennsylvania Council of Republican Women (Sept. 29) she denounced the Roosevelt Administration for what she called a "fondness for secrecy in the handling of our international policy." Touring the Mid West, Mrs. Luce told an Indianapolis audience that President Roosevelt was "the world's leading isolationist and appeaser" from 1933 to 1939, adding that "he lied us into the war he did not have the political courage to lead us into." Emergence of a Roosevelt foreign policy, according to the Congresswoman, was largely a political legend, whose only consistent phase was appeasement of Soviet Russia.

In addition to denouncing the President's pre-war foreign policy, Mrs. Luce condemned him for playing "Charlie McCarthy to Sidney Hillman's Bergen" in his Teamsters' Union speech. Decrying the Political Action Committee, she warned in Boston (Oct. 21) that "Communism, through Sidney Hillman, has bought, paid for and acquired the biggest single interest in a great American institution, the Democratic party" and that the President was "walking right into a trap set for him by an international pressure group." R. J. Thomas, president of UAW (CIO) explained that, having sought PAC support and been rejected, Mrs. Luce was demonstrating that "Hell hath no fury like a woman scorned."

As principal feminine spokesman at her party's convention, Mrs. Luce pleaded the cause of GI Joe and martyred GI Jim, and decried the distorting of our democracy into a dictatorial "bumbledom." She was a member of her state delegation which conferred on campaign plans with Candidate Dewey. In December, with other members of the House Military Affairs Committee, she toured the European war fronts.

HARRY F. BYRD

Senator Byrd's prominence during 1944 was owing to his position as the favorite candidate of the dissident Southern Democrats and to his work in the Senate in behalf of economy and business interests.

The "Draft-Byrd-for-President" movement started early in this Presidential year to organize Democratic delegations in behalf of the Virginian. Notwithstanding Byrd's firmly reiterated statement, "I am not now and do not intend to be a candidate for the Presidency . . ." (Feb. 29) his supporters proceeded on the theory that no man would turn down the nomination if it were offered to him. Preconvention speculation also frequently mentioned the possibility of a Bricker-Byrd ticket. Republican congressmen promoted the Democratic Senator for Vice-President on the Republican slate in the hope that some Southern states in their discontent would desert the New Deal. While nothing came of this coalition idea, Byrd forces in the Democratic Convention, although booed, did place his name in nomination over the expressed reluctance of the nominee and secured for him 89 votes on the first ballot, all but one from the South. During the campaign the Senator said nothing in behalf of the Roosevelt-Truman ticket and, according to reports, did nothing to put a stop to efforts being made to obtain votes for him at the expense of that ticket. It is notable that the popular vote of the Democratic party in the South was 1,400,000 less in 1944 than four years ago.

In the Senate, Byrd spoke out in defense of his section. He accused Senator Guffy (June 23) of making "a cowardly, vindictive, malicious and unwarranted attack" upon Senator Bailey after the Pennsylvanian had criticized the North Carolinian (while absent) for calling CIO leaders "communists." Byrd warned: "We Southerners do not appreciate being lectured by him. If the Senator from Pennsylvania is seeking to create disunity and destroy the Democratic party in the South, he could not do more than he has attempted." When Guffy was displaced by Senator O'Mahoney as Democratic Senatorial Campaign Committee Chairman, Byrd was "delighted."

Resolutions demanding investigation of the Government's seizure of Montgomery-Ward property and reduction in the number of Federal employees were fostered by the Virginian. Claiming that government corporations compete with private enterprise, he urged that Congress assert more control over them. He found little support in Congress for his proposal requiring governmental departments to reimburse the Post Office for mailing, the solons sensing an attack upon the franking privilege.

JOSEPH H. BALL

The Presidential campaign brought Senator Ball (Minnesota) into national prominence in 1944. First, he busily urged the nomination of his friend and benefactor Lt. Comdr. Harold E. Stassen, former Governor of Minnesota, and later, during the fall campaign he broke with his party, announcing that he would support President Roosevelt for reelection.

Beginning in February, he urged that Stassen be drafted for the Republican nomination because of his outstanding qualifications, experience, and "clear program" for the post-war period. To this end he campaigned actively for Stassen in the Wisconsin and Nebraska presidential primaries. The five fundamental issues, according to Ball, were foreign policy, attitude and policies of the Rooseveltians toward private enterprise, a Federal labor relations policy, the New Deal's administration of government, and the maintenance of working relationships between the Executive and Congress.

With him, however, foreign policy was uppermost. In June, along with Senators Burton, Hill, and Hatch, he conferred with Secretary of State Hull on their so-called B2H2 resolution favoring immediate establishment of a security system without waiting for cessation of hostilities or the drafting of definitive peace. Shortly before the Republican Convention these Senators in a formal statement urged that all candidates for the Presidency and Congress state "clearly and forthrightly" their position on foreign policy. In the face of Governor Dewey's strength at the Republican Convention, Ball declared: "Nothing is inevitable in politics. You don't give up something you believe in just because it looks tough."

The Senator seemed to demonstrate his own statement when, after propounding (Oct. 12) three questions to the Presidential nominees on world security (one dealt with the power of the United States representative on the Security Council to commit an agreed upon military quota without further Congressional approval), he took the almost unprecedented step of abandoning his party's candidate. He did so (Oct. 23) in recognition of the President's pronouncements and achievements in the field of foreign policy. He also accused Dewey (Oct. 25) of failing to propose "a workable, constructive program on the domestic issues of taxation and labor relations." After the election Ball was viewed as a rising leader of Republican liberals, speaking often on foreign policy and criticizing New Deal domestic policy.

ERIC A. JOHNSTON

During his third-term as President of the United States Chamber of Commerce, Eric Johnston continued to attract public attention by his words and deeds. At the invitation of Stalin, he visited Russia (May 16 to July 12) where he was given unusual opportunities to observe and travel freely (altogether 35,000 miles), interview the Premier, and speak bluntly. He told Soviet trade leaders (June 4) that a great gulf existed between the economic systems of the United States and the U.S.S.R., but that each should be allowed to develop "unimpeded by the other." While he scoffed at American Communists, he praised "Soviet capitalists" and suggested bridging the ideological gulf by post-war trade. Upon his return he predicted Russian cooperation in promoting peace and trade after the war.

Johnston made an unusually effective statement of the conservative position in his book, *America Unlimited*, which was published in the spring. The business leader voiced the same views in innumerable speeches in which he called for a "people's capitalism," the competitive spirit, better labor-management relations, and a wider social security program.

When he was interviewed along with other prominent Republican presidential possibilities upon whether he would support any candidate nominated by the G.O.P., he replied affirmatively but with the reservation that, "I do not share with you the view that I am being prominently mentioned as a Republican presidential candidate . . ." The only other political mention of the Chamber President during 1944 concerned the possibility of his being keynoter of the Republican national convention, but this, too, was mere talk. In a syndicated article Johnston took the measure of President Roosevelt, admiring him as a man but condemning him as a politician. When Vice-President Wallace spoke of "American Fascists," Johnston deprecated him for "name calling," and setting class against class in a time when unity was needed. In answer to those who criticized the "frivolity" of a wartime election, the President of the Chamber of Commerce replied ". . . this Presidential year must serve as a dramatic demonstration of the vitality of our great American life."

THE YEAR IN CONGRESS

By Mary Sumner Benson

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GENERAL

The second session of the Seventy-eighth Congress convened Jan. 10, 1944 and adjourned Dec. 19. It was, however, in recess from April 1 to 12, from June 23 to Aug. 1, and from Sept. 21 to Nov. 14 so that the working period was shorter than in any of the three previous years. When the second session met in January the membership stood at 218 Democrats, 208 Republicans, two Progressives, one Farmer-Labor and one American-Labor in the House where there were five vacancies. In the Senate there were 58 Democrats, 37 Republicans, and one Progressive. By the close of the year deaths and resignations had reduced the major parties in the House to 212 each.

Traditionally an election year is not productive of extensive legislation. Moreover Republicans and conservative Democrats showed some tendency to combine against Administration measures thought to exhibit New Deal plans. As a result fewer measures became law than in the preceding sessions of the Seventy-seventh and Seventy-eighth Congresses. It was reported at the close of the session that the Seventy-Eighth Congress had enacted one out of every eight bills introduced, a high proportion.

When Congress convened the principal problems left from the first session appeared to be higher taxes, the soldier vote, and the continuation of farm price subsidies. Nothing was accomplished on the first despite Administration pressure although tax payments were somewhat simplified. On the second a "States Rights" measure was adopted. Subsidies were continued till June 30, 1945.

There was a great demand for post-war planning to cover the immediate period of demobilization and to provide jobs to prevent post-war unemployment. A fair amount of this was accomplished. The Contracts Termination measure, the War Mobilization and Reconversion law, and the Surplus Property bill outlined procedures and established agencies to handle many of the problems of reconversion. The Highway bill and the Flood Control bill provided for the expenditure of large sums on public works in the post-war period. Veterans' legislation was also passed. Mustering-out pay was provided and the "G.I. Bill of Rights" extended wide educational benefits to veterans and provided for unemployment benefit payments and the guarantee of loans quite liberally. The measures dealing with veterans were passed easily and with enthusiasm.

It was generally expected in January that there would be a number of measures, either bills or treaties, dealing with world organization and related matters before Congress in 1944. Most of these, however, had not taken shape before the end of the year and foreign affairs were represented chiefly by our participation in the United Nations Relief and Rehabilitation Administration and by the continuation of Lend Lease.

There was continued friction between Congress and the Administration which was shown particularly in the veto of the tax bill and the message which accompanied it and in the prompt repassage of the bill over the President's veto. The same feeling was noticeable in the veto of the act extending the Commodity Credit Corporation which repealed subsidies although that veto was not overridden. Strain appeared also in the statements on the Soldier Vote bill which became law without the President's signature. A number of measures were signed somewhat reluctantly, among them the War Mobilization and Reconversion Act which the President felt was inadequate on the human side, the Surplus Property bill in which he found the methods of distribution confusing, and the law "freezing" the Social Security tax. Congress showed little disposition to make immediate provision for either the St. Lawrence seaway or for a Missouri Valley Authority, both of which were administration sponsored projects.

Among the important problems left for the Seventy-ninth Congress were the post-war Rivers and Harbors bill and the question of exempting insurance companies from the anti-trust laws. Proposals which had aroused much interest but had not led to definite action were tax revision, on which a committee was at work, compulsory military training strongly urged by the Administration and by many groups throughout the country, and a suggested Full Employment Act to give new Federal responsibility in meeting post-war unemployment. It seemed probable also that there might be legislation dealing with a world security organization and with international financial measures based on the recommendations of the Bretton Woods conference.

AGRICULTURE

Following planks in the platforms of both major parties, Congress in December passed a measure to provide all-risk crop insurance on wheat, cotton and flax for the 1945 harvest. This was a revival of a system first adopted in 1938 which enabled farmers to meet risks with a type of insurance not otherwise available.

The Department of Agriculture Organic Act of 1944 provided for the control and eradication of certain plant and animal pests, and for closer cooperation with the states in fire control, made management of national forests more effective, and facilitated the operation of the Rural Electrification Administration and the Farm Credit Administration.

The Farm Labor Appropriation Act appropriated $30,000,000 to be merged with an appropriation of $6,500,000 from 1943 to enable the War Food Administrator to insure an adequate labor supply for the production and harvesting of agricultural commodities. War prisoners and workers from Central and South America and adjacent islands were to be used for this purpose. The latter were to be procured by the War Manpower Commission. Funds were also allotted to State Extension Services for procuring domestic intrastate labor. The Frazier Lemke Act to prevent unnecessary farm mortgage foreclosures was continued for two years.

APPOINTMENTS

During the year particular interest centered on the confirmation of appointments to the higher military ranks and to the State Department. Permanent promotions for 14 generals were confirmed in May. In August after our rapid advance in France George S. Patton, Jr., whose promotion had previously been postponed was confirmed as permanent major general. In accordance with the law providing for new rankings, Generals George C. Marshall, Douglas MacArthur, Dwight Eisenhower and Henry H. Arnold were named "generals of the army" and William Leahy, Ernest J. King, and Chester W. Nimitz, "admirals of the fleet," in December.

James V. Forrestal succeeded Frank Knox as Secretary of the Navy and Edward R. Stettinius, Jr. was made Secretary of State after the resignation of Cordell Hull. This last appointment was followed by a number of changes in the State Department which were the occasion for much discussion of foreign policy and of the Administration in the Senate. The appointments, which were confirmed just before the final adjournment of the Senate, were those of Joseph C. Grew as Under Secretary of State and William L. Clayton, James C. Dunn, Brigadier General Julius C. Holmes, Archibald MacLeish, and Nelson Rockefeller as Assistant Secretaries of State. Two of these appointments followed the passage of a bill authorizing two new Assistant Secretaries of State.

Among the diplomatic changes were the naming of Laurence A. Steinhardt as ambassador to the government of Czechoslovakia, Norman Armour as ambassador to Spain, Alexander Kirk as ambassador to Italy, and Major General Patrick J. Hurley as ambassador to China. Among those named to war agencies created or altered during the year were James F. Byrnes as Director of War Mobilization and Reconversion, and Robert Hurley and Robert A. Heller as members of the Surplus Property Disposal Board.

APPROPRIATIONS

In June the chairman of the House Appropriations Committee stated that the Seventy-Eighth Congress had given more money for war purposes than was appropriated for all other wars fought by the United States. The new appropriations of the 1944 session were nearly $47,000,000,000 less than those for 1943 but large sums for

1944 were reappropriated from the 1943 budget so that a direct comparison of the amounts for the two years is misleading. Total appropriations for the two years were over $181,000,000,000. The major appropriations in 1944 were:

Independent Offices	$ 8,485,099,875
Treasury and Post Office	1,330,846,169
War Department—Civil Functions	92,455,440
State, Justice, Commerce	241,937,700
Legislative, Judiciary	59,701,018
Agriculture	562,145,918
Navy	27,569,798,301
Interior	103,239,796
District of Columbia	69,111,569
War Agencies	1,030,937,242
Labor, Federal Security	1,112,644,464
Lend Lease, UNRRA	3,920,320,000
War Department—Military Functions	15,434,814,795
Permanent Appropriations	6,409,793,867
Deficiencies and Supplementals	1,240,000,000
Miscellaneous	6,900,000

The figures for the Navy and War Departments reflect the great expansion caused by the war. The Navy bill was intended to give the country the largest navy in our history. The appropriations for the military functions of the War Department were based on plans for an army of 7,700,000. The total budget for this was over $49,000,000,000 because of unexpended balances from 1943. Mustering-out pay, higher family allowances and more overseas pay added to military expenses though some economies were effected.

The Independence Offices measure was the subject of some controversy when an attempt was made in the Senate to amend it to require Senate confirmation for all Federal officers making $4,500 or more a year. This amendment was defeated by the House. The War Agencies bill as passed included funds for the maintenance of the Fair Employment Practices Committee although there was some opposition to this and some restrictions were placed on F.E.P.C.

ARMY AND NAVY

Several bills passed in the course of the session affected the rank or pay of members of the armed forces. Expert Army infantrymen were given an increase of five dollars a month in non-combat areas and ten dollars in combat areas if they met certain qualifications set up by the War Department. Army nurses, dieticians, and therapy aides in the Army for the duration were made eligible for the same benefits as the Women's Army Corps. New top rankings were created for the Army and Navy in the form of Fleet Admirals of the Navy and Generals of the Army, four being permitted in each category. Base pay for these posts remained at $8,000 a year but personal allowances were raised to $5,000. The measure was sought by the services to give our highest commanders abroad rank and prestige equal to that of their counterparts in the Allied armies. Seven of the eight posts thus created were promptly filled by the President. A bill was also passed enabling General George C. Marshall to remain as Chief of Staff after he reached retirement age. A law was passed permitting the elevation of the chief of navy chaplains to the rank of rear-admiral.

In July the Selective Service Registration Act was extended to the Virgin Islands which had hitherto been exempt.

FOREIGN AFFAIRS

In one sense much of the work of the year was concerned with foreign relations, especially the appropriations for Lend Lease and the United Nations Relief and Rehabilitation Administration. There was much discussion of foreign policy, particularly at the time of the appointments to the State Department. Other activities included the naming of a bipartisan committee by Chairman Connally of the Senate Foreign Relations Committee to confer with Secretary Hull on the plans for an international organization. No detailed report was made public but the committee met several times with Secretary Hull and was reported to have reached general agreement on the outlines of an international body.

Attempts were made early in the year and again in December to pass a resolution calling for an open door to immigration to Palestine but these were dropped, first at the request of the Army and again after conference with diplomatic officials who felt that it was unwise to bring the matter to the fore at this time. Some minor treaties were considered. The Foreign Relations Committee decided to leave hearings on the Anglo-American oil treaty and on a treaty on the distribution of the waters of the Colorado and Rio Grande rivers for consideration by the Seventy-ninth Congress. The election results had made it clear that there would be several changes in the personnel of the committee which may have prompted the delay.

Congress in September adopted unanimously a resolution expressing its belief in the worldwide right of interchange of news by news gathering and distributing agencies and urging that the right be backed by international compact.

An act was also passed to give effect to the provisions of the Fur Seal Agreement of 1942 between the United States and Canada. This agreement to protect the fur seals of the Pribilof Islands followed the termination of the earlier treaty of Russia, Japan, Great Britain, and the United States by Japan.

LEND LEASE AND UNITED NATIONS RELIEF AND REHABILITATION ADMINISTRATION

Lend Lease to our allies was extended to June 30, 1945 by a vote of 334 to 21 in the House and 63 to 1 in the Senate with an amendment to the act which barred the President in final settlements from incurring obligations in regard to post-war economic or military policy involving international relations except in accordance with established constitutional procedure.

Congress agreed to the participation of the United States in the United Nations Relief and Rehabilitation Administration by a measure signed by President Roosevelt on March 29. This act authorized an appropriation of $1,350,000,000 for this purpose but did not make the appropriation. In May the President asked for an appropriation of $450,000,000 of this amount. This appropriation was combined with those for Lend Lease and the Foreign Economic Administration in a $3,920,320,000 measure for the 1945 fiscal year; $3,450,500,000 was earmarked for Lend Lease with the proviso that $350,000,000 more might be diverted to UNRRA if the chiefs of staff certified that it was not needed for Lend Lease. There was an attempt in the House to confine Lend Lease aid to those nations whose troops had actually faced the enemy in combat but this was defeated.

Lend Lease reports from the President were received by Congress at intervals throughout the year. The latest, the seventeenth, received on Nov. 24 dealt with the reverse Lend Lease given by the British Commonwealth of Nations.

PEARL HARBOR TRIALS

Extension of the statute of limitations for trials which might arise from the Pearl Harbor catastrophe was before Congress twice during the year. On June 13 President Roosevelt signed a measure extending the time for trials to Dec. 7, 1944 and directing the services to investigate the affair and commence proceedings if the facts justified this. The measure was signed despite the protests of the Secretaries of War and of the Navy who feared interference with the war effort. The Army and Navy duly conducted the investigations by a Naval Court of Inquiry and an Army Pearl Harbor Board and in each case reported that they found no grounds for court martial proceedings against the commanders in the Hawaiian area in December, 1941 from the evidence now available. Both reports admitted errors of judgment on the part of high officials. In each case the Secretary of War felt that a full disclosure of testimony now would be prejudicial to the conduct of war. Nevertheless, Congress passed a bill which continued till June 7, 1945 the time during which legal action or courts martial might be instituted. This was signed by the President on Dec. 16.

THE PHILIPPINES

Congress passed two resolutions dealing with the Philippines and in doing this made promises which may bring the islands independence before July 4, 1946. The first resolution dealt particularly with independence and with our acquisition of air and naval bases for mutual protection. The second provided for a joint economic commission to plan the economic and financial rehabilitation of the islands.

POLL TAX

A measure to forbid the poll tax in Federal elections which had passed the House was killed in the Senate by a threatened filibuster. An effort to invoke closure was defeated in the Senate by a vote of 36 to 44. Similar tactics killed an anti-poll tax measure in 1942.

POSTAL SERVICE

Rates for special postal services such as special delivery, insured mail, collect-on-delivery and others were changed and in some cases increased during the year. Provision was also made for a vote system to provide an inexpensive method of sending small sums of money by mail. An effort to raise the pay of postmasters and other post office employees $400 a year failed in the last days of the session.

POST-WAR PUBLIC WORKS

There was much interest displayed in plans for extensive public works in the post-war era. In January President Roosevelt sent a special message, with a plan for a network of super highways drafted by his National Interregional Highway Committee as a joint State and Federal project, and urged early action on this, partly as a means of providing work in the post armistice period. A measure to this end was passed in December. It provided $500,000,000 for the construction of highways in each of the first three post-war years and required the designation of two new highway systems, one the National System of Interstate Highways connecting metropolitan and industrial areas, the other for secondary and feeder roads in rural and semi-rural regions. Funds were to be supplied to the states on a basis of matching grants-in-aid and were to be apportioned in proportion to area, population, and rural free delivery mileage. The program was to be administered by the Public Works Administration which was required to make all contracts with state highway departments.

A second measure designed primarily to create post-war jobs was the Flood Control bill which authorized $1,000,000,000 for assorted flood control, reclamation, hydro-electric power and other works on most of the country's great river basins. Provisions in the bill allowed state review of Federal works and permitted the Secretary of the Interior to dispose of surplus power at hydro-electric projects. It also forbade any interference with irrigation by navigation projects in arid states. The measure contained authorizations but no appropriations. In September the President had asked for development of a Missouri River basin project similar to the Tennessee Valley Authority. This followed a request from eight of the nine state governors of the area for administrative and legislative action to develop the basin. The Flood Control bill authorized construction by army engineers and the Bureau of Reclamation in the Missouri basin but left the broader question of a Missouri Valley Authority to be handled by the Seventy-ninth Congress. The President signed the bill with the understanding that it did not jeopardize the creation of such an authority.

A third measure, a $500,000,000 Rivers and Harbors bill failed of passage because the Senate did not take favorable action on the conference report. Earlier the measure had aroused interest because of an amendment which would have included the St. Lawrence seaway plan with the bill. This was defeated by a vote of 56 to 25 in the Senate after a personal message from President Roosevelt urging its adoption. The major portions of the bill appeared likely to be brought up again before the incoming Congress.

POST-WAR RECONVERSION

As our armies made progress toward victory there was a considerable demand for legislation dealing with demobilization and a return to normal business activity. The President in his budget message in January mentioned several fields of readjustment. These included termination of war contracts, disposal of government surpluses, industrial reconversion, demobilization and reemployment, planning of public works, veterans' legislation, and extension of social security. The veterans' legislation and post-war public works are noted under separate headings. Three measures for business readjustment passed were the War Contracts Termination Act, the War Mobilization and Reconversion Act of 1944, and the Surplus Property bill.

The purpose of the first of these was to expedite reconversion from war to civilian production as quickly as practicable, to assure contractors of prompt settlement of claims and adequate financing till the final settlement, to insure uniformity in the basic policies of government agencies, to provide safeguards against fraud, and to provide expeditious removal from plants of material no longer needed. For this purpose an Office of Contract Settlement headed by a Director of Contract Settlement was created. There was also set up a Contract Settlement Advisory Board with *ex-officio* members drawn from the Cabinet and other agencies. The Director was authorized to appoint an Appeal Board to deal with complaints. Cases might also be taken to the Court of Claims and to Federal district courts.

In the fall the War Mobilization and Reconversion Act created the Office of War Mobilization and Reconversion with a director. This office consolidated the Office of Contract Settlement, the Surplus War Property Administration, the Surplus Property Board, and the Retraining and Reemployment Administration. The last of these with its administrator was also created by this act. The new War Mobilization and Reconversion Office superseded the former Office of War Mobilization. James F. Byrnes, Director of War Mobilization, agreed to accept temporary appointment as director of the new office. The act laid down general policies for demobilization and reconversion. It stated that it was not a policy to retain persons in the armed services to prevent unemployment and ordered any contracting agency to terminate war contracts when not needed for the prosecution of the war. Special attention was to be given to smaller war plants in the allocation of material. The act also amended the Social Security Act to prevent exhaustion of state unemployment funds in cases of heavy demands during the reconversion period. The act provided for quarterly reports to the President and Congress. The President when signing the act said that it did not deal adequately with the "human side of reconversion" in that it failed to provide unemployment benefits for 3,000,000 Federal employees not now covered by Social Security, and did not provide transportation expenses to return war workers to their original homes or to new places of employment.

The Surplus Property Bill was the subject of more than three weeks conference between the House and the Senate. The former had passed a measure providing for a single administrator with sweeping powers. The latter wished an eight-member board. The bill as adopted provided for a three-member Surplus Property Board in the Office of War Mobilization and Reconversion. Other clauses provided for the utilization of surplus property by Federal agencies and laid down regulations for selling or leasing surplus property to states, their subdivisions and non-profit institutions, and for placing certain strategic materials in government stockpiles. Disposal of surplus agricultural commodities was left to the War Food Administration. Special reports were to be made to Congress on surplus plant facilities costing over $5,000,000 and Congress was to receive a progress report quarterly on the entire program. A provision of the measure permitted the Commodity Credit Corporation to subsidize the export of any farm product. The President signed the bill reluctantly as he felt that the methods of distribution were confused and the restrictions over elaborate.

PRICE CONTROL

Action was completed on the Stabilization Extension Act just before the June recess of Congress after much debate, especially over the textile clauses and provisions for court review of regulations. The final measure extended the Price Control Act to June 30, 1945 but with some modifications. Ceiling prices on cotton textiles were to be fixed by "major items" and must reflect payment of parity prices for raw cotton. The Administration was directed to act to maintain parity or the highest average price in the first nine months of 1942, whichever was higher, for cotton, corn, wheat, rice, tobacco, peanuts, and other basic agricultural commodities. Rent ceiling adjustments were permitted in certain cases if taxes and operating costs had risen to the point of threatening substantial hardship. No restrictions could be imposed on the use of trade and brand names. The food subsidy program was not to be extended and was to stop after June 30, 1945 unless Congress made direct appropriations for its continuance. Penalties for non-wilful violation were reduced from three times the overcharge or $50 to the amount of the overcharge or $25. Non-wilful violators might set up as a defense that the violation was not intentional and that all practicable measures had been taken to prevent violation. Action taken by the Office of Price Administration for civil damages must be brought in the district where the defendant resided or had an office or agent. The President when he signed the bill criticized these clauses dealing with non-wilful violators as possibly weakening the program. He praised Congress for its firm stand against pressure groups.

PUBLIC DEBT LIMIT

In his budget message President Roosevelt declared that the national debt was expected to reach $198,000,000,000 by June 30, 1944 and $258,000,000,000 by June 30, 1945. This would necessitate increasing the debt limit above the $210,000,000 set in 1943. Accordingly a measure was passed in June establishing the limit at $260,000,000,000. In the bill was a much debated rider which reduced the tax on cabaret and night club admissions from 30 to 20 per cent.

PUBLIC HEALTH SERVICE

The Public Health Service was broadened by a measure passed in June which made possible Federal grants for research by non-government institutions and made possible larger appropriations to aid state public health work. The act established a national tuberculosis program and provided commissions for public health nurses with ranks comparable to those of the Army and Navy.

SOLDIER VOTE

Absentee voting for servicemen was a problem which had been left unsettled in the first session of Congress. The Senate had passed a measure in December, 1943 which was not accepted by the House. On Jan. 26, 1944, President Roosevelt sent a message denouncing the so-called "States-Rights" bill as a fraud and recommending a compromise bill. On Feb. 3 the House adopted a bill, permitting the use of state ballots only, by a vote of 328 to 69. The next day the Senate 46 to 42 rejected a "States-Rights" substitute for the compromise bill. The matter went on with compromises and conferences. On March 15 a "States Rights" measure with some compromise features was sent to the President. It passed the Senate 47 to 31 and the House 273 to 11.

This bill provided for a United States War Ballot Commission consisting of the Secretaries of War and the Navy and the War Shipping Administrator which was to provide ballots and facilitate their delivery. Service men and women were to make their own applications for state absentee ballots but a Federal short ballot was made available to those who applied for the state ballots and failed to receive them by Oct. 1, provided the state governor had certified by July 15 that the Federal form would be acceptable. The Federal Government was to expedite applications for state ballots.

The Federal ballot provided spaces for the names of President, Senator, and Representative. The bill applied to members of the armed services. the Merchant Marine, to members of the American Red Cross, the Society of Friends, the United Services Organization, and the Women's Auxiliary Service Pilots overseas. There were also clauses barring material containing political propaganda from sale at post exchanges and from other distribution to the armed forces and making it unlawful for any officer to attempt to influence votes. The President had hoped for a measure permitting general use of a Federal ballot. On receiving this bill he at once telegraphed the governors of all the states to ask whether the Federal ballot would be declared an acceptable substitute to their state ballots and announced that his decision would rest on their replies. He finally permitted the bill to become law without his signature and returned it with a message denouncing it as "wholly inadequate."

In the course of the summer it became evident that the "propaganda restrictions" of the act, as interpreted by the Army, were barring many widely read books and some popular motion pictures from posts and preventing rebroadcasts of important political speeches from reaching the troops. Widespread public protest arose over this. The sponsors of the clause stated that the difficulties arose from misinterpretation and were not intended to restrict information. In view of public feeling, however, amendments were adopted in August which removed the undesirable limitations of the measure.

SUBSIDIES

One of the important pieces of business left unfinished in the first session of Congress was the continuance of subsidies. Subsidies had been authorized in the law establishing the Commodity Credit Corporation which expired Dec. 31, 1943. In December, 1943 an emergency measure continued the life of the Corporation to Feb. 17, 1944. On Feb. 17, after much debate, a bill was passed which extended the Corporation to June 30, 1945 and continued subsidies on domestic vegetable oil seeds, sugar cane, sugar beets, and flour for export but stopped other subsidies as of June 30, 1944. The measure was vetoed by the President on Feb. 18 on the ground that it would increase food costs materially. The House sustained the veto with a vote of 226 for the bill and 151 against it. Then another bill was passed extending the life of the Corporation to June 30, 1945, retaining the subsidy features. This was signed by the President on Feb. 28. A provision in the Surplus Property Disposal bill passed later in the year apparently authorized subsidies on agricultural products for export to prevent "dumping."

TAXATION AND REVENUE

Taxes proved to be one of the most controversial questions of the year. In his budget measure of 1943 President Roosevelt had asked for an increase of $16,000,000,000 in Federal revenue. This had been modified to $10,560,000,000 by a request from the Treasury Department in October, 1943. The House passed a bill estimated to provide $2,940,000,000 in increased revenue but the Senate did not act before adjournment. In his budget message on Jan. 13, 1944 the President asked for at least $10,500,000,000 increased revenue, and urged higher taxes as a means of maintaining economic stabilization. Shortly thereafter the Senate completed action on a slightly revised tax bill which was sent to conference.

The measure, as sent to the White House early in February, was supposed to produce $2,315,200,000 in additional revenue. It passed the House by 238 to 101 and the Senate without a roll call. The bill made no increase in individual income tax rates but repealed the credit for earned income. The Victory tax was made a flat three per cent and the post-war credit features of the earlier Victory tax were repealed. Federal excise taxes paid by the tax payer were no longer deductible. Exemptions for dependents were based on the status of July 1 of each year. Mustering-out pay received by service men need not be reported for income tax purposes. Social Security taxes were frozen at the one per cent level for 1944. Excise taxes were increased on distilled spirits, wine, beer, jewelry, furs, club dues, night club bills, and a wide variety of other items. The excess profits tax was raised from 90 to 95 per cent and the credit for invested capital somewhat decreased. Labor organizations, farm cooperatives and other non-profit, tax-exempt organizations were required to file annual returns on their fiscal status though there was no change in their tax status. Clauses for renegotiation of war contracts were to expire Dec. 31, 1944 but the President might move the date six months either way. These provided that war contracts made after June 30, 1943 and until Dec. 31, 1944 might be renegotiated under various conditions. Prime contracts and subcontracts not over $500,000 were not subject to renegotiation, and some other types were also exempt. Jurisdiction was given to the United States Tax Court instead of the Court of Claims.

On Feb. 22 the President vetoed the tax bill and sent it back to Congress with a sharp message. His special objections were the lack of increased revenue which he thought even less than appeared on the surface; the check to the automatic Social Security increase; the stopping of renegotiation of war contracts as of Dec. 31, 1944; and the failure to simplify the tax laws and eliminate the Victory tax. He stated also that the provisions regarding corporations reorganized in bankruptcy, the percentage depletion allowance for certain minerals, the permission to the lumber industry to treat income from selective logging as capital gain, and some other exemptions bestowed special privileges. He would, however, be glad to approve the excise taxes.

Congress was quite perturbed over the message which was the first veto of a tax bill in half a century. The remarks in the message about relief for the greedy was regarded as an attack on the good faith of Congress. Senator Barkley resigned as Democratic majority leader but was immediately reelected unanimously by the Democratic Conference. In an exchange of correspondence, good relations were restored between the President and Senator Barkley. The bill was repassed over the veto 299 to 95 in the House and 72 to 14 in the Senate.

The other tax measure of the year, tax simplification, caused much less disturbance. It passed the House by a vote of 358 to 0 and the Senate without a dissent and was promptly signed. This act relieved the great majority of taxpayers from the necessity of computing their tax and simplified the return form for those who must compute it. It repealed the Victory tax and combined the existing normal tax and surtax into a single surtax. A new normal tax of 3 per cent was placed on all incomes over $500. There was a uniform personal exemption of $500 for each person and the definition of dependents was somewhat broadened. This act applied to 1944 income and was to take effect Jan. 1, 1945.

Social Security taxes for 1944 were "frozen" at one per cent each for employer and employee by the general revenue act, but failing Congressional action were scheduled to increase automatically on Jan. 1, 1945. A bill to continue the existing rate was passed by a vote of 262 to 72 in the House and 47 to 19 in the Senate. The President approved the measure with reluctance and urged the next Congress to review thoroughly the methods of financing Social Security benefits. Suggestions for a study of the old-age section of the Social Security Act and recommendations for a permanent tax plan had also been made by Senator Vandenberg and others in Congress.

VETERANS

The most important veterans' legislation of the year was the so-called "G. I. Bill of Rights" Servicemen's Aid Act. The bill covered both men and women who had served 90 days or more in active service on or after Sept. 16, 1940 and who had been released from service with other than dishonorable discharges. It provided up to 52 weeks of unemployment compensation at $20 a week for veterans unable to find work and cash benefits for self-employed veterans making less than $100 a month, on the same basis. Loans to veterans by private and public lending agencies for purchase and repair of homes, farms, and small businesses were to be guaranteed up to 50 per cent provided the guarantee did not exceed $2,000 and the interest four per cent. There were very liberal allowances, particularly for veterans under 25 years of age, for education in college and other training courses which might range from one to four years with grants of $500 a year for tuition and other educational expenses and additional living allowances for the veteran and his dependents. The bill provided $500,000,000 for more hospital facilities and set up a Veterans' Placement Board in the United States Employment Service. The measure was signed by the President with much ceremony on June 22.

Another measure of considerable importance was the Mustering-out Pay Bill which passed the House 277 to 103 and the Senate by a voice vote. This bill gave pay ranging from $100 to $300, varying with length and place of service, to those mustered out after Dec. 6, 1941. Payments were to be made in three monthly installments. The bill did not include those honorably discharged on their own initiative to take employment in civilian life nor did it include student groups detailed for special training.

The Veterans' Preference Act of 1944 gave preference in government employment to ex-service men and women, particularly those with service-connected disabilities, to wives of seriously disabled veterans, and to widows of veterans. Some classifications of service were limited exclusively to veterans. Those with service-connected disabilities had ten points added to their ratings in civil service examinations. Others were to be given five points.

In December a bill was signed extending to 90 days following release from service the length of time in which a veteran of the Second World War might apply for reemployment at his pre-war job.

Various measures increased pensions. Those with service-connected disabilities and their dependents received a 15 per cent increase. There were also increases for permanently and totally disabled veterans whose disabilities were not service-connected and for veterans of the Spanish War who were disabled or had reached the age of 65. Pensions were granted to widows of Civil War veterans married after June 26, 1905 provided they had not remarried and met certain conditions as to age, dependence, and length of marriage. A bill which would have extended the date of the closing of the Philippine insurrection from July 4, 1902 to Dec. 31, 1913 was vetoed, however. The first general pension bill for widows and orphans of the First World War was passed. This provided pensions regardless of the cause of death up to $74 a month subject to certain conditions of income. Any woman who married a veteran after the effective date of the act must have been married to him for ten years to receive a pension upon his death. Other measures also extended benefits to veterans of various wars and to their dependents.

WAR POWERS

The Second War Powers Act, containing the authority for the Office of Price Administration's rationing program, the industrial controls of the War Production Board, and the powers of the War Food Administration and other broad powers for the President in acquiring and distributing property including strategic and critical material, was extended to Dec. 31, 1945.

INVESTIGATIONS

Many problems were investigated by the regular and special committees of Congress. The Senate War Investigating Committee, first under the chairmanship of Senator Truman and later of Senator Mead, covered a wide range of matters from a refusal after inquiry to probe into the actions of the Department of Justice in the termination of the Elk Hills petroleum reserve contract to the question of the cigarette shortage. This latter problem was also studied by the House Agriculture Committee.

The Government's seizure of the Montgomery Ward plant in Chicago was investigated by a special committee in the House and by the Senate Judiciary Committee. The House committee presented a majority report favorable to the Government but suggesting the desirability of a revised Labor Code and a highly critical minority report.

A special committee of the House spent much time on the operations of the Federal Communications Commission. In the House the Committee on Campaign Expenditures attracted special attention at the time of the hearings on the Political Action Committee of the C. I. O. and the Citizens' Political Action Committee. A House special committee spent a large part of the year in studying the condition of the American Indian and reported that it was desirable to continue the various services of the Government to the Indian.

The Senate established a committee with members drawn from the Foreign Relations, Interstate Commerce, Commerce and Public Lands Committees, and others named by the Vice President to study the country's petroleum sources and the production and use of oil in relation to national security. In June the Senate Committee on Post-war Economic Policy and Planning reported an extensive list of legislative obligations for Congress. The House Committee on Un-American Activities, usually known as the Dies Committee, which had spent $650,000 since 1938, was scheduled to expire at the end of the session. Its chairman had not run for re-election and the matter of its possible continuance in the Seventy-ninth Congress was the subject of some speculation.

In November the House special committee to investigate executive agencies recommended several measures to aid Congress in checking more closely on executive agency activities. Most of these were not acted on before adjournment, but at the close of the session a resolution was adopted providing for a joint House-Senate committee of 12 members to study the "modernization" of Congress and to "streamline" procedures. The committee was organized before adjournment and planned to begin comprehensive research early in 1945.

VIRGIN ISLANDS

A number of minor measures of public interest were passed during this session. One authorized a $10,000,000 Public Works program in the Virgin Islands to provide slum clearance, fire protection, water supply, highways, sanitation and medical facilities. The cost of this was supposed to be offset several times over by the internal revenue taxes paid on rum and other beverages made in the islands and shipped to the mainland. The money was to be made available gradually over a five year period.

MISCELLANEOUS

In the final deficiency appropriation measure of the year Congress voted to increase the allowance for clerk hire to $3,000 for members of the House, $4,020 for Senators in general, and $5,040 for Senators from states of more than 4,000,000 population.

A bill was passed making it unlawful to publish or distribute any political statement relating to a candidate for Federal office unless the statement bore the name of the person responsible for it.

In July the President signed a law permitting persons of Japanese ancestry, American citizens by birth, to renounce their citizenship and declare themselves subjects of Japan. Such action was purely voluntary but persons acting under it might be treated as enemy aliens and interned. This had been done in some instances before the close of the year.

The Navy Department was authorized to withdraw 30,000,000 barrels of oil from the Elk Hills, California reserve. The President signed this with reluctance because it appeared to give Congress virtual executive powers over naval oil reserves. The need for the oil was immediate so he did not veto the measure.

A bill to abolish the Jackson Hole national monument in Wyoming passed both houses but was pocket-vetoed by President Roosevelt with a "memorandum of disapproval." The monument, adjoining Teton National Park, had been created by executive order in March, 1943.

A national service law was strongly urged by the President in his opening message. The Secretary of War appealed to the House Military Affairs Committee for action of this kind. Later the Secretary of the Navy, the Assistant Secretary of War, and the head of the War Production Board asked the Senate Military Affairs Committee for "work or fight" legislation. No Congressional action to this end was taken, however.

THE SUPREME COURT AND CONSTITUTIONAL LAW

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GENERAL

No changes in the membership of the Court occurred in 1944. Disagreements amongst the justices stayed at about the same level as in 1943. In 17 cases four justices dissented, while three justices dissented in 19 cases. The members of the Court showed an increased tendency to scold each other for what some of them regarded as objectionable or non-judicial utterances, and these rather personal criticisms created an impression of disagreement in the Court, perhaps not wholly justified by the actual decisions. The Court reversed two earlier decisions, thus bringing the total number of overruled cases since 1937 to 24.

TRENDS AND GROUPING

The decisions of the Court fell into the following groups. There was, first, an important list of cases dealing with the war powers of the national government. These related to the validity of the military evacuation from the West Coast of American citizens of Japanese origin, and the validity of their continued detention in relocation centers; to the Espionage Act; to the Selective Service Act; and to the constitutionality of the price control and rationing legislation. Second, a number of cases dealt with civil and political liberties. Of these the most important were the cases invalidating the Texas "White Primary," and the two cases holding that the railroad brotherhoods may not discriminate against Negroes in setting up agencies for collective bargaining. Others dealt with freedom of religion, and the procedural rights of persons accused of crime. Third, in contrast to earlier years, the Court decided very few constitutional questions relating to the commerce power, and of these only one was of striking importance. In this case the Court, by a four to three vote, overruled a decision handed down 75 years ago, and held that insurance companies doing business across state lines are engaged in interstate commerce and are, furthermore, subject to the prohibitions and penalties of the Sherman Anti-Trust Act.

EVACUATION AND RELOCATION OF JAPANESE-AMERICAN CITIZENS

In 1943 in *Hirabayashi v. United States* (310 U. S. 81) the Supreme Court held the curfew regulations set up in military areas on the West Coast validly applicable to American citizens of Japanese ancestry, although all other citizens were exempt; but it by-passed the much more important question whether the military evacuation of these Japanese-American citizens from the West Coast military areas was constitutional. In *Korematsu v. United States* (Dec. 18) a divided Court held the evacuation program valid. The majority opinion was written by Mr. Justice Black; Mr. Justice Frankfurter concurred briefly; Justices Roberts, Murphy, and Jackson each wrote dissenting opinions.

In February, 1942, the President, by Executive Order No. 9066, authorized the creation of military areas from which any or all persons might be excluded and with respect to which the right of persons to enter, remain in or leave, should be subject to such regulations as the military authorities might prescribe. Military areas were thereafter set up by the Commanding General of the Western Defense Command, the first and most important of which was Military Area No. 1, comprising the entire West Coast from Canada to Mexico to an average depth of about 40 miles. By a statute passed on March 21, 1942, Congress imposed criminal penalties upon those who violated the military regulations set up in these military areas. In creating Military Area No. 1, General DeWitt announced that he would evacuate from this area all persons of suspected loyalty, all alien enemies, and all aliens and citizens alike of Japanese ancestry. Originally the Japanese-American citizens were allowed to leave the military area upon their own initiative and go to places of their own choice. This plan worked badly. The evacuation proceeded slowly, and the evacuees were met by hostility in most of the places to which they moved. On March 26, therefore, voluntary evacuation was stopped by a freezing order which forbade enemy aliens or American citizens of Japanese ancestry to leave any military area without official permission and subject to government regulations. In the meantime "relocation centers" were being set up under the newly-created War Relocation Authority. By June 1, the compulsory transfer to these relocation centers of 112,000 Japanese, including 70,000 American citizens, was completed.

Korematsu lived in that part of Military Area No. 1 from which by Civilian Exclusion Order No. 34 all persons of Japanese ancestry were excluded after May 8. All these persons were ordered to report at a stated time to a Civil Control Station for instructions to go to an Assembly Center. Refusal to comply with this order was made punishable under the Act of March 21. Korematsu defied this order, was convicted under the statute, and was later sent to a relocation center. No question was raised as to his loyalty to the United States.

Mr. Justice Black's opinion for the majority of the Court followed closely the opinion in the *Hirabayashi* case. The evacuation program rests constitutionally upon the belief by competent military authorities that "gravest imminent danger" to the public safety existed at the time it was ordered. Like the curfew, exclusion from the military area had a "definite and close relationship to the prevention of espionage and sabotage." Like the curfew, the exclusion of these Japanese-American citizens was justified by the acute danger arising from the "presence of an unascertained number of disloyal members of the group, most of whom we have no doubt were loyal to this country," and the impossibility (in the judgment of the military authorities) of "an immediate segregation of the disloyal from the loyal." The Court cited in support of the reality of this alleged danger the fact that later "approximately 5,000 American citizens of Japanese ancestry refused to swear unqualified allegiance to the United States and to renounce allegiance to the Japanese Emperor, and several thousand evacuees requested repatriation to Japan."

It was urged that the evacuation orders were in reality grounded in race prejudice and that Korematsu had been thrown into a concentration camp solely because of his race and without evidence or inquiry regarding his loyalty and good behavior. This the Court vigorously denied. It concluded its opinion with this statement: "To cast this case into outlines of race prejudice, without reference to the real military dangers which were presented, merely confuses the issue. Korematsu was not excluded from the military area because of hostility to him or his race. He *was* excluded because we are at war with the Japanese Empire, because the properly constituted military authorities feared an invasion of our West Coast and felt constrained to take proper security measures, because they decided that the military urgency of the situation demanded that all citizens of Japanese ancestry be segregated from the West Coast temporarily, and finally, because Congress, reposing its confidence in this time of war in our military leaders—as inevitably it must—determined that they should have the power to do just this. There was evidence of disloyalty on the part of some, the military authorities considered that the need for action was great, and time was short. We cannot—by availing ourselves of the calm perspective of hindsight—now say that at that time these actions were unjustified."

One less basic, though persuasive point was urged on the Court. On May 30, the date on which Korematsu was charged with remaining unlawfully in the prohibited area, there were two conflicting military orders outstanding, one forbidding him to remain in the area, the other forbidding him to leave, but ordering him to report to an Assembly Center. Thus he was punished for doing what it was made a crime to fail to do. The Court held the orders not to be contradictory, since the requirement to report to the Assembly Center was merely a step in an orderly program of compulsory evacuation from the area.

The three dissenting opinions each rested on a different ground. Mr. Justice Roberts stressed the conflict between the military orders, one of which required Korematsu to leave the district, while the other forbade him to go save *via* an Assembly Center, "a euphemism for a prison." Granting that in an emergency temporary exclusion from a locality may be valid, the facts show that the exclusion in this case "was but a part of an overall plan for forceable detention." The two conflicting orders "were nothing but a cleverly devised trap to accomplish the real purpose of the military authority, which was to lock him up in a concentration camp."

Mr. Justice Murphy centered his attack upon the sufficiency of the military finding that the mass evacuation of all persons of Japanese ancestry was indispensable to the protection of the public security. While military discretion in such matters must be accorded great respect, "it is essential that there be definite limits to military discretion, especially where martial law has not been declared." Those limits were passed in this case, since there is no evidence that there was an "immediate, imminent, and impending" public danger sufficient to justify the bald and brutal race discrimination amongst American citizens here involved. The exclusion did not rest upon a showing of public danger, but upon an assumption "that *all* persons of Japanese ancestry may have a dangerous tendency to commit sabotage and espionage and to aid our Japanese enemy in other ways." This assumption is unsupportable, and there is no convincing evidence that any substantial number of individuals of Japanese origin were in any way disloyal. The exclusion was based, not on a demonstrated public necessity, but upon "an accumulation of much of the misinformation, half-truths and insinuations that for years have been directed against Japanese-Americans by people with racial and economic prejudices." The Japanese-Americans were entitled to be dealt with "on an individual basis by holding investigations and hearings to separate the loyal from the disloyal." The assertion that the loyalties of the group "were unknown and time was of the essence" is refuted by the fact that the first exclusion order was not issued until four months after Pearl Harbor, and the last one not until eight months had elapsed. The evacuation was not completed for 11 months. "It seems incredible that under these circumstances it would have been impossible to hold loyalty hearings for the mere 112,000 persons involved—or at least for the 70,000 American citizens—especially when a large part of this number represented children and elderly men and women."

Mr. Justice Jackson also emphasized the naked racial discrimination involved in the exclusion order violated by Korematsu. He stated that under our system of law, guilt is personal and not inheritable, but that "here is an attempt to make an otherwise innocent act a crime merely because this prisoner is the son of parents as to whom he had no choice, and belongs to a race from which there is no way to resign." Such action fails to meet any of the conventional tests of constitutional law. Mr. Justice Jackson then proposed a novel and interesting solution of the conflict between military necessity and individual rights. He admits that "defense measures will not, and often should not, be held within the limits that bind civil authority in peace. . . . A military commander . . . issues orders, and they may have certain authority as military commands, although they may be very bad as constitutional law." He felt unable to reach a conclusion as to whether the expulsion orders were or were not "reasonably expedient military precautions. . . . But even if they were permissible military procedures, I deny that it follows they are constitutional." Mr. Justice Jackson explained and supported this statement as follows: "A judicial construction of the due process clause that will sustain this order is a far more subtle blow to liberty than the promulgation of the order itself. A military order, however unconstitutional, is not apt to last longer than the military emergency. . . . But once a judicial opinion rationalizes such an order to show that it conforms to the Constitution, or rather rationalizes the Constitution to show that the Constitution sanctions such an order, the Court for all time has validated the principle of racial discrimination in criminal procedure and of transplanting American citizens. . . . A military commander may overstep the bounds of constitutionality, and it is an incident. But if we review and approve, that passing incident becomes the doctrine of the Constitution. . . . I should hold that a civil court can not be made to enforce an order which violates constitutional limitations even if it is a reasonable exercise of military authority . . . I do not suggest that the courts should have attempted to interfere with the Army in carrying out its task. But I do not think they may be asked to execute a military expedient that has no place in law under the Constitution."

THE ENDO CASE

While a divided Court held valid in the *Korematsu* case the discriminatory mass evacuation from military areas of all persons of Japanese descent, a unanimous Court held in *Ex parte Endo* (Dec. 18), that a loyal American citizen of Japanese ancestry can not constitutionally be detained in a War Relocation Center, but must be unconditionally released. Mitsuye Endo, a girl born in this country of Japanese parents and therefore an American citizen, was sent to a relocation center, from which in this case she sought release through *habeas corpus*. The Government conceded that Miss Endo is a loyal and law-abiding citizen, not detained on any charge and not even suspected of disloyalty. In fact, she had applied for "leave clearance," and this had been granted. This leave clearance, however, did not permit departure from the relocation center except under the conditions and restrictions established by the War Relocation Authority. These conditions and restrictions were part of a program and policy designed to guarantee that there should not be "a dangerously disorderly migration of unwanted people to unprepared communities," but that Japanese-American citizens of ascertained loyalty should go under the guidance and with the approval of the Authority to such places and at such times as seemed to it to promise suitable and satisfactory conditions. This meant concretely that permission to leave the relocation centers on indefinite leave would not be granted unless the applicant had the assured prospect of a job and a place to live approved by the Authority. Nor would he be allowed to go to a locality "where it has been ascertained that community sentiment is unfavorable," or one which has "not been cleared for relocation" nor into any prohibited military area, "including those from which these people were evacuated."

The Court, speaking through Mr. Justice Douglas, held that Miss Endo must be given her liberty immediately. It rested its decision, not on constitutional grounds, but upon a fair construction of the statutes and executive orders upon which the evacuation and relocation programs rest. It must be assumed that the purpose of these was "to allow for the greatest possible accommodation between those liberties [of the citizen] and the exigencies of war." Their single purpose was to protect the war effort against espionage and sabotage. The initial part of the plan was to remove these people from designated areas, and the later part was to afford them "transportation, food, shelter, and other accommodations." There is no evidence of an intention to detain them longer than was necessary to effect the central purpose of security against espionage and sabotage. It is clear that "a citizen who is concededly loyal presents no problem of espionage or sabotage. . . . He who is loyal is by definition not a spy or a saboteur." It follows, therefore, that the authority to detain a citizen ends when his loyalty is conceded. To hold otherwise would be to justify the detention of Japanese-American citizens, not on grounds relevant to military necessity, but purely on grounds of race. The continued detention of loyal citizens, even though temporary and even perhaps for their own best interests, can not be upheld on the ground alleged by the Government that such detention "is an essential step in the evacuation program."

The Court's opinion left open the question whether Miss Endo, now unconditionally released, could return to her home in Sacramento which was in a military area from which persons of Japanese ancestry were still barred. The revocation of the exclusion orders at the same time these decisions were handed down made this a moot question. In separate concurring opinions, Justices Murphy and Roberts urged that the original evacuation orders were invalid, that the petitioner is entitled to her freedom on clear constitutional grounds, and that she would, therefore, be entitled to go to any place in the country to which any other loyal citizen could go.

FREE SPEECH AND THE ESPIONAGE ACT

In *Hartzel v. United States* (June 12), the Supreme Court set aside a conviction under the Espionage Act of 1917 on the ground that the evidence did not support a verdict of guilt. The case is in no way reminiscent of the manner in which such questions were dealt with during and after the First World War, and strikingly emphasizes the present Court's solicitude for the maximum protection of freedom of speech in wartime. Hartzel, a citizen and a veteran of the last war, is a financial analyst, auditor, and statistician. He is not known to be a member of any foreign or subversive organization. Prior to our entry into the war he wrote several articles bitterly attacking the English, the Jews, and the President, and expressing a

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hope for German victory. In 1942 he wrote three articles describing our participation in the war as a betrayal of America, denouncing the English and the Jews, and attacking the integrity and patriotism of the President. He urged the abandonment of our allies, the conversion of the war into a race struggle, and called for the occupation of this country by foreign troops until we "are able to stand alone." He mimeographed and mailed about 600 of these anonymously to a selected list of prominent people, and officers of well-known organizations. Some of these were sent to Army Officers and others fell into the hands of persons registered under the Selective Service Act of 1940. For circulating these articles, Hartzel was convicted of violating those clauses of the Espionage Act of 1917 which make it a crime to (a) "willfully cause or attempt to cause insubordination, disloyalty, mutiny, or refusal of duty, in the military or naval forces of the United States," or, (b) to "willfully obstruct the recruiting or enlistment service of the United States."

In an opinion by Mr. Justice Murphy, the Court held that two major elements are necessary to constitute an offense under these clauses. The first is a specific intent or evil purpose, required by the use of the word "willfully." The second is the presence of a "clear and present danger that the activities in question will bring about the substantive evils which Congress has a right to prevent." A review of the record convinced the Court that there was no evidence "from which a jury could properly find beyond a reasonable doubt" that Hartzel had the specific intent necessary to spell out a willful violation of the statute. The Court did not consider the question whether the mailing of the pamphlets constituted a "clear and present danger" of military insubordination or obstruction of the draft. Mr. Justice Reed, joined by Justices Frankfurter, Douglas, and Jackson, dissented on the ground that there was enough evidence against Hartzel to justify the trial judge in allowing the case to go to the jury, and that to set aside the conviction is to usurp the functions of the jury.

DENATURALIZATION OF CITIZENS

In *Schneiderman v. United States* (320 U. S. 118, 1943), the Court held that, in order to denaturalize a citizen, the Government must present evidence against him which is "clear, unequivocal, and convincing." A mere preponderance of evidence will not do. This strict rule was applied by a unanimous Court to set aside a denaturalization decree in *Baumgartner v. United States* (June 12). Baumgartner, an electrical engineer about 50 years of age, was born and educated in Germany, served as a German officer in the last war, came to this country in 1927, and was naturalized in 1932. The substance of the charges against him was that, beginning in 1933, he enthusiastically praised Hitler and what he was doing for Germany, spoke contemptuously of democracy as compared with Nazism, declared that American democracy was a "political farce," and publicly stated that "he would be glad to live under the regime of Hitler." Later he justified the German aggressions on the Continent, rejoiced at the fall of Dunkerque, gave expression to violent anti-semitism, belonged to the German American Bund, and attended various meetings at which the German national anthem was sung and the Nazi salute given. He unquestionably made himself intensely unpopular in his community.

In an opinion by Mr. Justice Frankfurter, the Court held that Baumgartner can validly be denaturalized only upon a convincing showing that he consciously withheld allegiance to the United States in the year 1932, and was therefore, at that time, guilty of fraud in taking his oath of allegiance. The evidence, in the opinion of the Court, does not support such a conclusion. In 1932 he foreswore his allegiance to the Weimar Republic, not to Hitler, who had not yet come into power. His subsequent admiration for Hitler and Nazism is not inconsistent with an honest oath of allegiance to this country taken at an earlier date. "One of the prerogatives of American citizenship is the right to criticize public men and measures—and that means not only informed and responsible criticism but the freedom to speak foolishly and without moderation." The Government failed to show that Baumgartner had cherished mental reservations when he swore allegiance to this country in 1932.

DRAFT ACT CASES

In two cases questions arose under the Selective Service Act. *Falbo v. United States* (Jan. 3), held that in a criminal prosecution for violation of an order directing a registrant to report for service, the statute does not permit judicial review of the draft board's classification of the registrant. Falbo, a Jehovah's Witness, was classified by his draft board as a conscientious objector and was ordered to report for assignment to work of national importance. He willfully disobeyed this order on the ground that he was a "regular and duly ordained minister" and therefore exempt under the statute from all forms of national service. Upon being brought to trial, he insisted that the District Court should permit a trial *de novo* on the merits of his claim of exemption, or at least review the correctness of the local board's ruling upon his classification. This the Court refused to do, stating that "the Board has the decision of whether this man is to be listed as he claims he should be."

The Supreme Court, speaking through Mr. Justice Black, agreed with this ruling. It held that the order to report for induction was a necessary intermediate rather than the final step in inducting a man into the Army, that there is no constitutional requirement to provide for judicial intervention before final acceptance of an individual for national service, and that the Selective Service Act does not provide for this judicial review of the Board's classification at this stage of the procedure. "The circumstances under which the Act was adopted lend no support to a view which would allow litigious interruption of the process of selection which Congress created." Mr. Justice Murphy dissented on the ground that "common sense and justice [and presumably due process of law] dictate that a citizen accused of crime should have the fullest hearing possible, plus the opportunity to present every reasonable defense."

In *Billings v. Truesdell* (Mar. 27), the Court in an opinion by Mr. Justice Douglas, held that the Army does not have jurisdiction to try a selectee for refusal of service until his actual induction into the Army is completed. Billings, a conscientious objector, whose claim as such had been rejected by his draft board and the board of appeals, obeyed the order of his board to report to an induction center, as required by law. Upon arrival there he asserted his refusal to serve in the Army, demanded to be turned over to the civil authorities, and refused to take the oath of induction when it was read to him. The military authorities asserted that he was in the Army, was subject to military jurisdiction, and proceeded against him by court martial.

The Court held that the Selective Service Act and the regulations implementing it do not support this interpretation. Refusal to submit to induction is a violation of the statute, not of a military order, and military jurisdiction accordingly does not attach. Furthermore, following the rule laid down in the *Falbo* case, reporting for induction was the last step necessary for Billings to exhaust his administrative remedies and thereby place himself in a position to challenge in the civil courts the legality of his classification. It would be strange indeed if, in pursuing this orderly procedure, he exposed himself to forcible induction against his will.

CONSTITUTIONALITY OF WARTIME PRICE CONTROL

In a group of cases the Court came to grips with the constitutionality of the Emergency Price Control Act of

1942. The most important of these was *Yakus v. United States* (March 27), involving a conviction in a Federal district court in Massachusetts for a violation of the maximum prices fixed by the Office of Price Administration on the sale of wholesale cuts of beef. Yakus refused to obey the price regulation, declined to follow the procedure made available in the statute for protesting against it, and attempted in his criminal trial to challenge the validity of the price regulations and of the statute on which they rested. This he was not permitted to do. Speaking through Chief Justice Stone, the Court held the Emergency Price Control Act to be valid, not only in its substantive regulations but also in the procedures set up for its enforcement.

The Court's opinion dealt with four points. It first disposed of the charge that the statute unconstitutionally delegated legislative power to the administrator of the OPA. The crucial test is whether in delegating power to an administrative officer, Congress has clearly defined a legislative policy and has set up sufficiently clear standards to guide the administrator in the exercise of the discretion delegated to him. The Price Control Act meets this test. The policy of the act is declared to be the stabilizing of commodity prices so as to prevent wartime inflation and its resulting evils. In implementing this policy the administrator is directed to establish prices which will be "fair and equitable," and in fixing them to give consideration so far as practicable to the prices prevailing between Oct. 1 and Oct. 15, 1941. In the opinion of the Court, the policy stated and the standards set up to guide administrative discretion are much more explicit than those which were held invalid in the National Industrial Recovery Act (See *Schechter v. United States,* 295 U. S. 495, 1935), and compare favorably with the provisions of a number of important statutes held valid by the Court and in which Congress delegated broad powers to administrative officers.

The second point dealt with the unique procedural arrangements set up by the Price Control Act. A dissenting justice described this procedure as "streamlined," and its validity was sharply challenged. The procedure was as follows: Any person affected by any regulation or order of the administrator could file a protest with the administrator within 60 days. The administrator must either grant or deny the protest. If he denies it, the protestant may appeal within 30 days to a specially created Emergency Court of Appeals (a legislative court roughly similar to the Commerce Court of 1910), asking that the order be set aside. If the Emergency Court of Appeals agrees that the order should be set aside, it may issue an injunction. This injunction, however, does not become effective for 30 days, within which time the Supreme Court of the United States may issue *certiorari.* If it does, the injunction is further suspended until the Supreme Court reaches a final decision. This is the only procedure for attacking the validity of any price regulation or order. The statute explicitly states that the Emergency Court of Appeals shall have exclusive jurisdiction to determine the validity of any regulation or order, and that "no court, federal, state or territorial, shall have jurisdiction or power to consider the validity of any such regulation." In addition to this exclusive procedure for attacking the Price Control Act or its enforcement, the statute contains the usual criminal penalties for any wilful violation of the act, and it was a criminal action which was brought in this case against Yakus. The first question with respect to the procedure just described was whether Congress intended to make it completely exclusive, and the Court decided that it did. In the case of *Lockerty v. Phillips* (319 U. S. 182, 1943), the Court held that the Emergency Court of Appeals has exclusive equity jurisdiction in respect to the enforcement of the Price Control Act, and that, therefore, the District Court of the District of Columbia could not validly enjoin the enforcement of a price control order. In the present case, the Court went further and held that, in trying Yakus for the crime of violating the OPA regulation, the district court was without jurisdiction to consider the validity of the order which Yakus refused to obey.

This immediately raised the third point in the case, namely, whether this procedure denies due process of law. The Court decided that it does not. There are other familiar situations in which persons whose rights are affected by regulatory statutes are required to exhaust specified administrative procedures before being allowed to submit their cases to a court of law. The Interstate Commerce Act requires that many types of cases arising under the statute must be dealt with by the Interstate Commerce Commission before reaching a Federal court. Furthermore, this "streamlined" procedure is indispensable to the efficient enforcement of the Price Control Act. The Court states this point as follows:

"Inflation is accelerated and its consequences aggravated by price disparities not based on geographic or other relevant differentials. The harm resulting from delayed or unequal price controls is beyond repair. And one of the problems involved in the prevention of inflation by establishment of a nation-wide system of price control is the disorganization which would result if enforcement of price orders were delayed or sporadic or were unequal or conflicting in different parts of the country. These evils might well arise if regulations with respect to which there was full opportunity for administrative revision were to be ineffective by injunction or stay of their enforcement in advance of such revision or of final determination of their validity."

Not even the failure of the statute to permit the issuance of the temporary restraining order to one who has failed to resort to available administrative relief amounts to a denial of due process. "Our decisions leave no doubt that when justified by compelling public interest the legislature may authorize summary action subject to later judicial review of its validity."

Finally, the Court rejects the argument that the procedure set up under the act is invalid because it splits the trial for violations of an administrative regulation by committing the decision of all questions regarding the validity of the regulation to one tribunal, while referring issues of guilt to the regular courts. There is no constitutional objection to this arrangement. The person involved is not denied his day in court for the purpose of attacking the validity of the order which he has disobeyed. It is not necessary that the factual issue of his violation of the law be decided simultaneously. The Court does, however, reserve judgment on the question whether a person being tried for a violation of an OPA regulation might enter the defense that the regulation was unconstitutional on its face. It is clear, however, that, if the regulation is not thus obviously invalid, it can not be pleaded as a defense against prosecution.

Mr. Justice Roberts dissented strongly on the ground that the Emergency Price Control Act invalidly delegates legislative power to administrative officers. Mr. Justice Rutledge focused his dissent upon the procedural arrangements established by the statute. He urged that due process requires that a person be permitted to plead in his defense to a criminal prosecution the invalidity of the regulation he has violated. This statute makes no distinction between a price regulation alleged to be invalid on constitutional grounds and one which is invalid on other and lesser grounds. The procedure set up constitutes an invasion by Congress of the realm of judicial authority by denying to a court which has jurisdiction to decide a case and the power to examine and apply the law which governs the case. The precedent might lead to legislative restrictions upon the power of judicial review.

RENT CONTROL

The validity of the rent control sections of the Emergency Price Control Act came before the Court in *Bowles v. Willingham* (March 27).

In this case the owner of an apartment house sued in a state court to enjoin the issuance of a rent order by the OPA. The state court issued a temporary injunction, whereupon the administrator of the OPA sued in the Federal district court to restrain the landlord from proceeding further with the case, and the sheriff from enforcing the state court's restraining order. The Federal district court refused to issue the injunction on the ground that the rent order as well as the Price Control Act were invalid.

The Court, speaking through Justice Douglas, held that the injunction should have been issued by the district court, and that the rent regulations and the statute authorizing them were valid. In the first place, Congress could validly give to the Emergency Court of Appeals created by the act exclusive jurisdiction over cases arising under the statute, and, consequently, it could validly prevent any state court from interfering with the administration of the act. Second, there is no invalid delegation of legislative powers to the administrative officers. The statute requires that the rents fixed shall be genuinely fair and equitable and designed to effectuate the purpose of the act. Furthermore, upon a protest by any landlord to the administrator, that officer is obliged to inform the landlord of the basis upon which the rent regulation was established. These are sufficiently clear standards to guide the discretion of the officers to whom the power is delegated. Third, the statute does not deny due process of law because it requires that the maximum rents to be fixed be "generally fair and equitable" rather than fair to each individual landlord. Such fixing of individual rents would have been wholly impossible if the war emergency was to be met. Price control may properly be applied to all members of a class and is not invalid merely because a member of that class suffers an economic loss not shared by others. Finally, due process does not require that landlords be given a hearing before the orders fixing rents become effective. The rents are fixed by an administrative agency, and the requirement of due process is met by the later opportunity for judicial review of the administrator's action.

RATIONING

In *Stewart & Bro. Inc. v. Bowles* (May 22) the Court construed the sections of the Second War Powers Act which authorize the rationing of materials or commodities to empower the President, through the OPA, to withhold rationed goods from those who have acquired and distributed such goods in violation of ration regulations. The fact that violations of rationing rules are punishable by fine and imprisonment, and may also be enjoined, does not prevent resort to the additional sanction of a suspension order cutting off the supply of goods. "It is for Congress to prescribe the penalties for the laws which it writes."

THE "WHITE PRIMARY" CASE

In *Smith v. Allwright* (April 3) the Supreme Court, after hearing the case argued twice, reversed its decision in *Grovey v. Townsend* (295 U.S. 45, 1935) and held that Negroes can not validly be denied the right to vote in the Democratic primary in Texas. This decision is the culmination of a long struggle against this peculiarly effective method of Negro disfranchisement. In 1923 the Texas legislature passed a law which provided that "in no event shall a negro be eligible to participate in a Democratic party primary election held in the state of Texas, and should a negro vote in a Democratic primary election, such ballot shall be void and election officials are herein directed to throw out such ballot, and not count the same."

This was probably inspired by the Supreme Court's decision in 1921 in *Newberry v. United States* (256 U.S. 232), that a primary election is not an election within the meaning of the Constitution. The statute, however, was held void in *Nixon v. Herndon* (273 U.S. 536, 1927) as a flagrant denial of the equal protection of the laws. The Texas legislature thereupon replaced this statute with one which authorized the state executive committee of any political party to determine who could vote in its primary. The Democratic state committee promptly passed a rule excluding Negroes from the Democratic primary of 1928. The Supreme Court again held, in *Nixon v. Condon* (286 U.S. 73, 1932) that Negroes were denied equal protection of the laws since the discrimination under attack had been authorized by the state statute. The state legislature then repealed this statute without putting in its place any legislation governing the right to vote in primaries. The state Democratic convention thereupon adopted a resolution in 1932 declaring that all *white* citizens in the state were eligible to membership in the party and to vote in its primary.

This time a unanimous Court held, in *Grovey v. Townsend,* (295 U.S. 45, 1935), that the exclusion of Negroes from the Democratic primary under this party rule did not violate the equal protection clause of the Fourteenth Amendment since the racial discrimination involved was not the result, direct or indirect, of any state law or other official action. The Democratic party was declared to be a private, not a governmental body, and private persons or groups can not violate the Fourteenth Amendment. The matter appeared to be settled. In 1941, however, a collateral attack was made on the basic doctrine of *Grovey v. Townsend,* in the case of *United States v. Classic* (313 U.S. 299). This case involved no question of racial discrimination, but, reversing the rule commonly attributed to the *Newberry* decision, it held squarely that a primary election is an essential and integral part of the election machinery of the state. Steps were at once taken to re-open in the Supreme Court the issue settled in *Grovey v. Townsend.* This was done in *Smith v. Allwright.*

Speaking for a majority of 8-1, Mr. Justice Reed observed: "The fusing by the *Classic* case of the primary and general elections into a single instrumentality for the choice of officers has a definite bearing on the permissibility under the Constitution of excluding Negroes from primaries." It appears that at many points parties and party primaries in Texas are regulated by state statutes. "We think that this statutory system for the selection of party nominees for inclusion on the general election ballot makes the party which is required to follow these legislative directions an agency of the state in so far as it determines the participants in a primary election. The party takes its character as a state agency from the duties imposed upon it by state statutes; the duties do not become matters of private law because they are performed by a political party. . . . If the state requires a certain electoral procedure, prescribes a general election ballot made up of party nominees so chosen and limits the choice of the electorate in general elections for state offices, practically speaking, to those whose names appear on such a ballot, it endorses, adopts, and enforces the discrimination against Negroes, practiced by a party entrusted by Texas law with the determination of the qualifications of participants in the primary. This is state action within the meaning of the Fifteenth Amendment. . . ." *Grovey v. Townsend* is overruled.

Mr. Justice Roberts, who wrote the Court's opinion in *Grovey v. Townsend,* dissented. He did not reargue at length the issue of the case, but entered a vigorous protest against the Court's reversal of its earlier opinion. He deplored the uncertainty which frequent reversals are injecting into our constitutional law, and declared that these reversals "bring the adjudications of this tribunal into the same class as a restricted railroad ticket, good for this day and train only."

RACIAL DISCRIMINATION BY LABOR UNIONS

The Railway Labor Act of 1934 provides: "Employees shall have the right to organize and bargain collectively through representatives of their own choosing. The majority of any craft or class of employees shall have the right to determine who shall be the representative of the craft or class for the purposes of this Act." Under these provisions the Brotherhood of Locomotive Firemen and Enginemen became the exclusive bargaining representative of the craft of firemen employed by numerous railroads. The Brotherhood excludes Negroes from membership. In 1940 and 1941 the Brotherhood negotiated new collective bargaining agreements with 20 odd railroads in the southeastern part of the country. These agreements had the purpose and ultimate effect of excluding all Negroes from employment as firemen, and sacrificed certain seniority rights of Negro firemen which had already accrued. These agreements were made without the knowledge of the Negro firemen.

In *Steele v. Louisville & Nashville R.R. Co.* (Dec. 18) a unanimous Court, speaking through Chief Justice Stone, upheld the right of Steele and other Negro firemen to an injunction restraining the enforcement of the agreement discriminating against them. This decision was grounded on the Court's construction of the Railway Labor Act, and not on constitutional grounds. This reasoning runs as follows. The statutory status of the Brotherhood as the "representative" of the entire craft, imposes the duty to act on behalf of all the members of the craft. This representation is "for the purposes of the act," which is the avoidance of interruption of railroad service. If the interests of minorities in the craft are not represented by the Brotherhood, their only recourse will be to strike, and the purpose of the act will be defeated. "We think that the Railway Labor Act imposes upon the statutory representatives of a craft at least as exacting a duty to protect equally the interests of the members of the craft as the Constitution imposes upon the legislature to give equal protection to the interests of those for whom it legislates." While the bargaining representatives may properly negotiate contracts which contain variations in terms based on relevant differences, such as seniority, degrees of skill, etc., it may not make race alone a basis of discrimination. Such discrimination is "irrelevant and invidious," and is plainly not authorized by the statute. Since the petitioners have no administrative remedy under which they may assert their rights in this case injunction is the proper remedy. Mr. Justice Murphy, concurring, urged that the decision should have been grounded on the clear invasion of the constitutional rights of the Negro firemen. The *Steele* case was followed in *Tunstall v. Brotherhood of Locomotive Firemen and Engineers* (Dec. 18) in which there was no diversity of citizenship between the parties to the suit, but in which the Court held that the case arose under a law regulating commerce of which Federal Courts are clearly given jurisdiction.

The basic doctrine of the *Steele* case was applied in a five-to-four decision in *Wallace Corporation v. N.L. R.B.* (Dec. 18) to ban as an unfair labor practice the making by an employer of a closed shop agreement with a labor union, acting as the accredited bargaining representative of the employees, when it is known to be the purpose of the majority union to deny membership to minority members because they belong to a rival union. This was an attack upon the C.I.O. The majority union, called "Independent," planned, after making the closed shop contract, to oust C.I.O. employees from their jobs. The Court stressed again the statutory duty of the bargaining representatives to serve as the agent of all employees "fairly and impartially." The dissenting justices rejected the statutory construction relied on by the majority, since the National Labor Relations Act expressly permits a closed shop.

FREEDOM OF RELIGION

In *United States v. Ballard* (April 24), the Court upheld a conviction for using the mails to defraud against the claim that the prosecution violated the First Amendment by attacking religious beliefs and restricting the free exercise of religion. Ballard and others organized and promoted the "I Am" movement through the use of the mails. They represented themselves as divine messengers, asserted that they had supernatural powers to make well persons afflicted with diseases, injuries, or ailments, including those regarded by the medical profession as incurable, and stated that they had in fact cured hundreds of persons. They solicited money and membership in the "I Am" movement on the basis of these claims. The trial judge refused to submit to the jury the question of the truth or falsity of the religious beliefs of the defendants, and confined the issue of guilt to the single question whether they honestly and in good faith believed the statements they made. Upon this basis they were found guilty. The Court held that the jury was properly instructed and that the First Amendment forbids measuring the guilt of the defendants by the truth or falsity of their religious beliefs or doctrines. They could, however, be punished for their fraudulent intentions as disclosed by the evidence in the record.

Jehovah's Witnesses appeared in two cases. In *Prince v. Massachusetts* (Jan. 31) the Court divided five-to-four in holding that a state child labor law can validly prohibit the distribution and sale of religious literature by children on the streets. The Massachusetts statute forbids boys under 12 and girls under 18 to sell newspapers or other merchandise on the streets, and punishes parents or guardians who permit children under their control to do so. In this case a nine-year-old girl, accompanied by her aunt, with whom she lived, distributed and offered for sale literature of the Jehovah's Witnesses in violation of this law. Speaking through Mr. Justice Rutledge, the majority of the Court held that a reasonable police regulation designed to protect the welfare of children must take precedence over the competing claims of religious freedom. In *Follett v. McCormick* (Mar. 27) a unanimous Court, the doctrine of *Murdock v. Pennsylvania* (319 U.S. 113, 1943), which held invalid a flat license tax upon the privilege of selling religious literature, was adhered to even though the facts showed that Follett, a Jehovah's Witness, earns his living in his home town by the sale of such literature. "Freedom of religion is not merely reserved for those with a long purse," and Follett's activities are classified as religious rather than commercial.

RIGHTS OF PERSONS ACCUSED OF CRIME

A series of cases dealt with the constitutional right of the individual to protection against compulsory self-incrimination. Law enforcement officers had been much disturbed by the implications of the rule laid down in *McNabb v. United States* (318 U.S. 332, 1943), that a defendant in a Federal court can not be convicted on the basis of a confession extracted from him while he was being illegally detained under aggravating circumstances before being arraigned as required by law. *United States v. Mitchell* (Apr. 24) limits the sweep of that decision. Mitchell was arrested for housebreaking and larceny in the District of Columbia. Within a few minutes after arrest, he made an admittedly uncoerced confession upon which his later conviction rested. He was not, however, arraigned for eight days.

The court held that, while this long detention before arraignment was illegal, it did not operate retroactively to vitiate a confession made earlier and not elicited by illegal official conduct. In *Lyons v. Oklahoma* (June 5) a conviction for murder rested substantially upon an oral confession which was admitted at the trial without objection by the defendant. This confession, however, was suspect because it followed a confession made earlier in the same day which was admittedly not voluntary since it had been elicited by 36 hours of uninterrupted questioning accompanied by violence and threats. The question presented to the Court was whether the coercion employed in securing the first confession so influenced the defendant as to make the second confession involuntary. The Court held that it did not do so as a matter of law and that the trial judge was correct in submitting to the jury the question whether the second confession was in fact involuntary. In *Ashcraft v. Tennessee* (May 1) the Court held that it violated the defendant's constitutional right to use in a trial for murder a confession elicited by 36 hours of continuous questioning under powerful electric lights, by relays of officers, experienced investigators, and highly-trained lawyers. Such an interrogation was held to be in the circumstances "inherently coercive."

In *United States v. White* (June 12) the familiar rule of *Hale v. Henkel* (201 U.S. 43, 1906) that a corporation can not claim protection against self-incrimination, is extended to an unincorporated labor union and its officers as such. White, as the authorized custodian of the union's records, refused to produce them when subpoenaed to do so. The constitutional protection against self-incrimination is a purely personal one. A union "represents organized institutional activity as contrasted with wholly individual activity," a fact unaltered by its lack of incorporation. To extend this important privilege to such groups would make effective state and Federal law enforcement impossible in many cases. Since the papers called for were not White's private papers, he could not validly withhold them.

Feldman v. United States (May 27) held that in a criminal prosecution in a Federal court it is permissible to admit testimony given by the accused in a civil proceeding in a state court under the protection of a state law granting immunity. This does not deprive him of the protection of the Fifth Amendment against compulsory self-incrimination since the amendments to the Constitution protect only against the invasion of civil liberties by the Federal Government. This is the converse of the rule in *United States v. Murdock* (284 U.S. 141, 1931) that a person may not refuse to give evidence in a Federal court on the ground that it may incriminate him under state law. The operations of the Federal Government can not be hampered or obstructed by restrictions arising out of state law.

INSURANCE BUSINESS HELD TO BE INTERSTATE COMMERCE

Probably the most far-reaching decision rendered in 1944 was that in *United States v. South-Eastern Underwriters Association* (June 5). Four of the seven justices who sat in the case declined to follow the rule laid down in 1869 in *Paul v. Virginia* (8 Wallace 168) that making contracts of insurance across state lines is not interstate commerce. They held, on the contrary, that interstate insurance business is interstate commerce, and is, furthermore, subject to the provisions of the Sherman Anti-Trust Act. The case arose on an indictment charging the defendant association, comprising nearly 200 private stock fire insurance companies and 27 individuals, with violating the Sherman Act. There is no doubt that the activities of the defendant Association in fixing and maintaining arbitrary and non-competitive premium rates on fire insurance, and in enforcing monopolistic control by boycotts, intimidation, and other types of coercion comprised exactly the kind of conduct which the Sherman Act forbids for "trade or commerce" among the states.

This raises squarely the two basic issues with which the opinion of Mr. Justice Black for the majority dealt. First, do fire insurance transactions carried on across state lines constitute "commerce among the several states" so as to make them subject to control by Congress under the Commerce Clause? The Court held that they do, and supports that conclusion as follows. It is admitted that the insurance business in this country is gigantic, that its management is largely concentrated in relatively few large companies mainly in the East, and that it comprises "a continuous and indivisible stream of intercourse among the states composed of collections of premiums, payments of policy obligations, and the countless documents and communications which are essential to the negotiation and execution of policy contracts." In announcing and in later following the rule in *Paul v. Virginia* that "the business of insurance is not commerce," the Court's attention was focused on the attempts of insurance companies to escape state regulation on the ground that the business was interstate commerce and therefore beyond state reach. The rule rested on the proposition, which may be admitted, "that a contract of insurance considered by itself does not constitute interstate commerce." It does not, however, follow that the insurance business as a whole does not comprise elements and transactions which are interstate commerce. "A nationwide business is not deprived of its interstate character merely because it is built upon sales contracts which are local in nature." A review of the decisions makes it clear that "not only . . . may transactions be commerce though non-commercial; they may be commerce though illegal and sporadic, and though they do not utilize common carriers or concern the flow of anything more tangible than an information. . . . It would indeed be difficult now to hold that no activities of any insurance company can ever constitute interstate commerce so as to make it subject to such [federal] regulation." The precise line between state and Federal power over commerce can not be stated in precise abstract terms. However, the Court concludes: "No enterprise of any kind which conducts its activities across state lines has been held to be wholly beyond the regulatory power of Congress under the Commerce Clause. We cannot make an exception of the business of insurance."

The second issue considered by the Court is whether Congress intended in the Sherman Act "not to exercise its power over the interstate insurance trade." This contention is without support in the language of the act. The scope and purpose of the act were very sweeping. It was argued that Congress, familiar with the rule of *Paul v. Virginia,* must have intended to exempt the insurance business from the operation of the Sherman Act. To this the Court replied: "We fail to find in the legislative history of the Act an expression of a clear and unequivocal desire of Congress to legislate only within that area previously declared by this Court to be within the federal power . . . We have been shown not one piece of reliable evidence that the Congress of 1890 intended to freeze the proscription of the Sherman Act within the mold of then current judicial decisions defining the Commerce power." It was urged upon the Court that to extend Federal power to the insurance business would produce chaos by throwing into uncertainty the area of permissible state control and by actually nullifying much desirable state regulation without putting anything in its place. This the Court declared was an exaggeration and stated that state laws do not authorize the monopolistic and coercive activities charged in the indictment.

Dissenting opinions were filed by Chief Justice Stone and by Justices Frankfurter and Jackson. Each dissenting justice agreed that the business of insurance as now conducted has many attributes of interstate commerce and has such effects upon it as to make it subject to appropriate exercises of the commerce power. What is sharply denied is that Congress intended in passing the Sherman Act, or any other legislation, to exercise that power. The Court should not transfer the insurance business from state to Federal control until Congress has clearly indicated a willingness to assume this responsibility by passing appropriate regulatory legislation.

In *Polish National Alliance v. N.L.R.B.* (June 5) the Court held without dissent that the Alliance, a fraternal benefit society providing death, disability, and accident benefits to its members and their beneficiaries, was engaged in interstate commerce and was, therefore, subject to the provisions of the National Labor Relations Act. The Alliance engages in highly diversified activities in connection with, and in addition to, its insurance business, and these are of a nature to constitute or to affect interstate commerce.

FEDERAL ADMINISTRATIVE AGENCIES

By John A. Tillema
Professor, The George Washington University

PURPOSE OF ADMINISTRATIVE CHANGES

The changes made in the administrative agencies of the United States during 1944 were designed either to promote a more effective prosecution of the war to a successful conclusion or to facilitate a more desirable transition from a war economy to a prosperous peacetime regime.

WAR REFUGEE BOARD

In pursuance of a policy of the United States to take all measures within its powers to rescue the victims of enemy oppression who are in eminent danger of death and to afford such victims all possible relief and assistance consistent with the successful prosecution of the war, there was established in the Executive Office of the President a War Refugee Board. The Board consists of the Secretary of State, Secretary of the Treasury, and Secretary of War. The Board may request the heads of other departments and agencies to participate in its deliberations whenever matters specially affecting them are under consideration.

The functions of the Board shall include without limitation the development of plans and programs and the inauguration of effective measures for, (a) the rescue, transportation, maintenance and relief of the victims of enemy oppression, (b) the establishment of havens of temporary refuge for such victims. The Board shall, through the appropriate channels, take the necessary steps to enlist the cooperation of foreign governments and to obtain their participation in the execution of the plans and programs. It is made the duty of the State, War, and Treasury departments at the request of the Board to carry out the plans and programs so developed and the measures so inaugurated. It is the duty of all agencies and departments to supply or obtain for the above purpose such information and to extend such supplies, shipping, and other specified assistance and facilities as the Board may require to carry out the provisions of the order.

The State Department shall appoint special attaches with diplomatic status, on recommendation of the Board, to be stationed abroad in places where it is likely that assistance can be rendered to war refugees. The duties and responsibilities of the attaches are to be defined by the Board in consultation with the State Department. The Board and the departments of State, War, and Treasury are authorized to accept the services and contributions of any private persons, organizations, state agencies, or agencies of foreign governments. The Board is required to cooperate with all existing and future international organizations concerned with the problem of refugee rescue, maintenance, transportation, relief, rehabilitation, and re-settlement.

To the extent possible the Board shall utilize the personnel, supplies, facilities, and services of the State, Treasury, and War Departments. In addition, within the limits of the funds which may be made available, the Board may employ the necessary personnel without regard to the civil service laws and regulations and the Classification Act of 1923 as amended. It shall make provision for supplies, facilities, and service necessary to discharge its responsibilities. The Board must appoint an Executive Director who shall serve as the principal officer. It is the duty of the Director to arrange for the prompt execution of the plans and programs developed and the measures inaugurated by the Board to supervise the activities of the special attaches and to submit frequent reports to the Board on the steps taken for the relief and rescue of refugees.

The Board is directly responsible to the President in carrying out the policy of the Government and must report to him at frequent intervals concerning the steps taken for the rescue and relief of war refugees and make such recommendations as it may deem appropriate for further action to overcome any difficulties encountered in that rescue and relief of war refugees.

PATENT REGISTER

By executive order of Feb. 18, 1944, there was established in the United States Office of the Department of Commerce a register of government interests in patents and applications for patents. The departments and other executive agencies of the United States, including government-owned or government-controlled corporations, were required to forward promptly to the Commissioner of Patents for recording in the separate register provided for, all licenses, assignments, or other interests of the Government in or under any patent or application for patents. The lack of registration or recordation of any right or interest of the Government in any patent or application therefor will not prejudice in any way the assertion of such right or interest by the Government.

SURPLUS WAR PROPERTY ADMINISTRATION

By Presidential Order of Feb. 19, 1944, there was established in the Office of War Mobilization, the Surplus War Property Administration. The Administrator is appointed by the Director of War Mobilization. With the assistance of the Surplus War Property Policy Board, the functions of the Administrator shall be: (a) to have general supervision and direction of the handling of surplus war property; (b) to have general supervision and direction of the transfer of any surplus war property in the possession of any government agency whenever in the judgment of the Administrator such transfer is appropriate; (c) unless otherwise directed by the Director of War Mobilization, to assign, so far as it may be deemed feasible by the Administrator, surplus war property for disposition as follows: consumer goods to the Procurement Division of the Department of the Treasury; capital and producer's goods, including plants, equipment, materials, scrap, and other industrial property, to a subsidiary of the Reconstruction Finance Corporation; ships and marine property to the United States Maritime Commission and food to the War Food Administration. It is provided, however, that surplus war property to be disposed of outside of the United States, unless otherwise directed by the Director of War Mobilization, shall be assigned so far as it is deemed feasible by the Administrator, to the Foreign Economic Administration.

The Surplus War Property Policy Board is composed of a representative of each of the following departments or agencies: State, Treasury, War, Navy, Justice, Reconstruction Finance Corporation, Smaller War Plants Corporation, United States Maritime Commission, War Production Board, Bureau of the Budget, War Food Administration, Federal Works Agency, Civil Aeronautics Board, and the Foreign Economics Administration.

RETRAINING AND REEMPLOYMENT ADMINISTRATION

By Executive Order of Feb. 24, 1944, there was established in the Office of War Mobilization, a Retraining and Reemployment Administration with a Director to be appointed by the Director of War Mobilization. With the assistance of the Retraining and Reemployment Policy Board the Administrator shall have general supervision of the activities of all government agencies relating to retraining and re-employment of persons discharged or released from the armed services or other war work, including all work directly affected by the cessation of hostilities or reduction of the war program. He shall issue necessary regulations and directions in connection therewith, and advise with the appropriate committees of Congress as to the steps to be taken with respect thereto.

In consultation with the government agencies concerned, he shall develop programs for the orderly absorption into other employment of persons discharged or released from the armed services or other war work. He shall make adequate provision for vocational training, for the finding of jobs for persons discharged or released, for assisting such persons and their families pending their absorption, and for dealing with the problems connected with the release of workers from industry not readily convertible to peacetime use.

In consultation with the government agencies concerned, he shall develop programs for the adequate care of persons discharged or released from the armed services, including physical and occupational therapy for the wounded and disabled and the resumption of education interrupted by the war.

The Retraining and Reemployment Policy Board shall consist of a representative of each of the following departments and agencies: War, Navy, Labor, Federal Security Agency, War Manpower Commission, The Selective Service System, Veteran's Administration, Civil Service Commission, and the War Production Board. The Policy Board shall invite representatives of other government agencies to participate in its deliberations when matters specially affecting them are under consideration.

The functions conferred by the order are to be performed through existing government agencies and officials so far as is feasible and in such manner as the Administrator shall determine.

WAR RELOCATION AUTHORITY

By Executive Order of Feb. 16, 1944, the War Relocation Authority in the Office for Emergency Management of the Executive Office of the President, together with its property, functions, records, personnel, and unexpended balances of appropriations, was transferred to the Department of the Interior to be administered as an organizational entity of that department. The functions of the Director of the War Relocation Authority were transferred to the Secretary of the Interior.

BRONZE STAR MEDAL

By Executive Order of Feb. 4, 1944, a Bronze Star Medal was established, with accompanying ribbons and appurtenances, to be awarded to any person who, while serving in any capacity with the Army, Navy, Marine Corps, or Coast Guard of the United States on or after Dec. 7, 1941, distinguished himself by heroic or meritorious achievement or service not involving participation in aerial flight in connection with military or naval operations against an enemy of the United States.

UNITED NATIONS RELIEF AND REHABILITATION ADMINISTRATION

On July 6, 1944, the Administrator of the Foreign Economic Administration was directed, subject to such policies as the President may from time to time prescribe, to exercise and perform through any executive department, independent establishment or agency, all the functions and authority with respect to the expenditure of funds and the provision of supplies and services related thereto vested in the President by Act of Congress of March 28, 1944 and the United Nations Relief and Rehabilitation Participation Appropriation Act for 1945.

Subject to the provisions of the Agreement for United Nations Relief and Rehabilitation Administration, concluded Nov. 9, 1943, the United States representative on the Council of the United Nations Relief and Rehabilitation Administration, as named by the President, shall designate or arrange for the designation of United States alternates on the Council and members and alternates on the committees and subcommittees of the Council.

All the activities of the United States Government pertaining to its participation and membership in the United Nations Relief and Rehabilitation Administration shall be carried on in conformity with the foreign policy of the United States as defined by the Secretary of State.

EXECUTIVE COMMITTEE ON COMMERCIAL POLICY

By Executive order of Aug. 7, 1944, the Executive Committee on Commercial Policy, established by a letter of the President to the Secretary of State in November, 1933, was abolished.

DIVISION OF CENTRAL ADMINISTRATIVE SERVICES

By Order of Aug. 25, 1944, the Division of Central Administrative Services of the Office for Emergency Management was terminated and its functions discontinued or transferred to the constituent agencies of the Office for Emergency Management and other appropriate Federal agencies.

CITATIONS FOR SHIPS AND SEAMEN

On Aug. 29, 1944, the President as Commander in Chief of the Army and Navy authorized the Administrator of the War Shipping Administration to issue a citation as public evidence of deserved honor and distinction to any United States ship or to any foreign ship operated by or on behalf of the United States Maritime Commission or War Shipping Administration, which, subsequent to Sept. 8, 1939, or during the present war, has served or shall serve in outstanding action against attack or in gallant action in marine disasters or emergencies at sea. The Administrator shall award a plaque to any ship so cited and a replica of such plaque is to be preserved as a permanent historical record. An appropriate citation ribbon bar is to be awarded to the master and each member of the crew serving on board such a ship at the time of the action for which the citation is made. In addition, a merchant marine meritorious service medal with accompanying ribbons will be awarded for meritorious service by the Administrator under such rules and regulations as he may establish.

OFFICE OF RUBBER DIRECTOR

On Sept. 1, 1944, the President by virtue of the authority conferred upon him by the First War Powers Act of 1941, abolished the Office of Rubber Director. The authority and functions of the Rubber Director were transferred to the chairman of the War Production Board. All the rules and regulations relating to the rubber program remain in effect. The Rubber Reserve Company, under the direction of the Secretary of Commerce, shall have responsibility for the purchase, sale, acquisition, storage, and transportation of synthetic and natural rubbers in amounts determined by the chairman of the War Production Board to be necessary to meet the requirements of the nation's rubber program.

Research, development, and testing of synthetic rubbers and new monomers for the testing of tires and tubes by test fleets owned by or operated for the United States are to be financed by or conducted in cooperation with the Rubber Reserve Company.

TRANSFERS

By order of Oct. 3, 1944, the Office of War Mobilization with all its records and property and such unexpended balances of appropriations and other funds, as were determined by the Director of the Bureau of the Budget, were transferred to the Office of War Mobilization and Reconversion.

All the records and office equipment of the Surplus War Property Administration herein referred to as having been established by executive order of Feb. 19, 1944, and all the unexpended balances and personnel of the administration, were transferred to the Surplus Property Board established by the Surplus Property Act of Congress.

SERVICE COURTS OF FRIENDLY FOREIGN FORCES WITHIN THE UNITED STATES

In pursuance of an Act of Congress of June 30, 1944, after a finding and declaration that the powers and privileges sought are necessary for the maintenance of discipline, President Roosevelt, on Oct. 12, by a proclamation authorized the United Kingdom of Great Britain and the Government of Canada to maintain courts martial and other military tribunals for the maintenance of discipline of military, naval, and air forces of the United Kingdom and the Government of Canada. These courts are to sit in the United States, and the President may at any time revoke his finding and declaration. In such an event they will, of course, cease to operate.

PUBLIC HEALTH SERVICE

On Nov. 24, 1944, by virtue of the authority vested in the President by section 207 (A) of the Public Health Service Act, approved July 1, 1944, he established in the Public Health Service one special temporary position of Associate Chief of the Bureau of State Services and one special temporary position of Chief Medical Officer for the War Shipping Administration. Commissioned officers of the Public Health Service have the grade of Assistant Surgeon General during the period of their assignment to such positions. The positions established by the above order shall cease to exist upon the termination of the present war or of the emergency declared by the President of May 27, 1941.

By Order of Nov. 21, 1944, and by virtue of the authority vested in the President by section 21(d) of the Public Service Act of July 1, 1944, he prescribed the following regulations governing the call to active duty of retired commissioned officers of the Public Health Service: The Surgeon General may order (a) any commissioned officer of the Regular Corps who now is or may hereafter be retired for disability from disease or injury incurred in line of duty, or, (b) any commissioned officer of the Reserve Corps who now is or may hereafter be retired for disability from disease or injury incurred in line of duty during time of war, to present himself for physical examination to a Board of Medical Examiners, and may order to active duty any such officer found physically capable of performing the duties to which he may be assigned: Provided, That the tour of duty of any officer so recalled shall not extend beyond the last day of the sixth month following the termination of the state of war.

MARTIAL LAW IN HAWAII

By proclamation of Oct. 19, 1944, martial law was declared to become terminated on Oct. 24, 1944, in the Territory of Hawaii, and the privilege of the writ of habeas corpus was restored.

MILITARY COMMANDER FOR THE TERRITORY OF HAWAII

By Executive Order of Oct. 18, 1944, the President directed the Secretary of War to designate the Commanding General, United States Army Forces, Pacific Ocean Areas, as the Military Commander of the Territory of Hawaii.

The Military Commander may prescribe the Territory of Hawaii or any part of it to be a military area, from which any and all persons may be excluded and with respect to which the right of any person to enter may be excluded and with respect to which the right of any person to enter, remain in, or leave shall be subject to whatever restrictions or orders the Military Commander may impose.

In the military area prescribed under the authority of the Order, the Military Commander may, whenever military necessity therefor exists, and the Military Commander so finds:

1. Establish blackout and curfew periods and restrict and regulate the action of all persons during such periods.
2. Establish air raid precautions.

3. Regulate the conduct of enemy aliens.
4. Evacuate or exclude and detain, incident thereto, any and all persons from the military area or from any part thereof, whenever the evacuation or exclusion, or detention incident thereto, is necessary to prevent espionage or sabotage, and the Military Commander so finds.
5. Regulate or prohibit the possession or use of firearms or other weapons.
6. Define for the purposes of the order, what shall constitute military service with the armed forces of nations other than the United States and require all persons who have had such military service to register such military service.
7. Issue regulations to assure adequate protection of the following: ports and harbors, dockage and stevedoring, barges, tugs and floating equipment and all travel facilities, and fixing overall quotas to all commercial cargo, transportation of ships, cargoes and passengers and disposition of all cargoes until removed from dock areas at docks and wharves.
8. Regulate, restrict, or prohibit travel within, into, or from the military area whenever such regulation, restriction, or prohibition is necessary for military security and the Military Commander so finds.

Whenever necessary to prevent espionage or sabotage, and the Military Commander so finds, he may regulate the publication of any newspapers and periodicals that are published in a foreign language or in dual languages. He may regulate, restrict, or prohibit the possession or use of radio transmission sets or transmission of information, by any means other than by newspapers, between the military area and points outside of it, or between islands of the military area.

Whenever the Military Commander finds it to be in the interests of national defense and the successful prosecution of the war, he may, to the extent he deems it necessary to carry out the purposes of the order, perform the functions and exercise the powers and authority conferred on the President by Title III of the Second War Powers Act, 1942, in so far as they relate to priorities and allocations of the following in the Territory of Hawaii: ports and harbors, dockage and stevedoring, barges, tugs, floating equipment, and all travel facilities, and fixing overall quotas to all commercial cargo.

Unless sooner terminated, the authority conferred by the Order will expire 30 days after the cessation of hostilities between the Empire of Japan and the United States. The Order became effective Oct. 24, 1944.

ELECTIONS OF 1944

By Thomas N. Hoover
Professor, Ohio University

CANDIDATES FOR PRESIDENT AND VICE PRESIDENT, 1944

Democratic Party	Franklin D. Roosevelt Harry S. Truman
American Labor Party	Franklin D. Roosevelt Harry S. Truman
Liberal Party	Franklin D. Roosevelt Harry S. Truman
Republican	Thomas E. Dewey John W. Bricker
Socialist	Norman Thomas Darlington Hoopes
Industrial Government and Socialist Labor	Edward A. Teichert Arla A. Albaugh
Prohibitionist	Clauda A. Watson Andrew Johnson
America First	Gerald L. K. Smith Harry Romer

POPULAR VOTE FOR EACH CANDIDATE

Alabama	Dem.	198,918
	Rep.	44,540
	Soc.	190
	Pro.	1,095
Arizona	Dem.	80,926
	Rep.	56,287
	Pro.	421

Arkansas	Dem.	148,965
	Rep.	63,551
	Soc.	438
California	Dem.	1,988,564
	Rep.	1,512,965
	Pro.	14,770
Colorado	Rep.	268,731
	Dem.	234,331
	Soc.	1,977
Connecticut	Dem.	435,146
	Rep.	390,527
	Soc.	5,097
	Soc. Lab.	1,220
Delaware	Dem.	68,166
	Rep.	56,747
	Pro.	294
	Soc.	154
Florida	Dem.	339,377
	Rep.	143,215
Georgia	Dem.	268,187
	Rep.	56,506
	Indpend.	3,373
	Pro.	36
Idaho	Dem.	107,399
	Rep.	100,137
	Pro.	503
	Soc.	282
Illinois	Dem.	2,079,479
	Rep.	1,939,314
	Soc. Lab.	9,677
	Prohib.	7,411
	Soc.	180
Indiana	Rep.	875,891
	Dem.	781,403
	Pro.	12,574
	Soc.	2,223
Iowa	Rep.	547,267
	Dem.	499,876
	Pro.	3,752
	Soc.	1,511
	Soc. Lab.	193
Kansas	Rep.	442,096
	Dem.	287,458
	Soc.	1,613
	Pro.	2,609
Kentucky	Dem.	472,589
	Rep.	392,448
	Pro.	2,023
	Soc.	535
	Soc. Lab.	326
Louisiana	Dem.	281,564
	Rep.	67,750
Maine	Rep.	155,434
	Dem.	140,631
	Soc. Lab.	335
Maryland	Dem.	315,490
	Rep.	292,949
Massachusetts	Dem.	1,035,296
	Rep.	921,350
	Soc. Lab.	2,780
	Pro.	973
Michigan	Dem.	1,106,899
	Rep.	1,084,423
	Pro.	6,503
	Soc. Lab.	1,264
	Soc.	4,598
	Am. First.	1,530
Minnesota	Dem., F-L.	586,864
	Rep.	527,416
	Ind. Govt.	3,176
	Soc.	5,073
Mississippi	Dem.	158,515
	Rep. (Black & Tan)	3,742
	Ind. Rep. (Lily Whites)	7,859
Missouri	Dem.	807,357
	Rep.	761,175
	Soc.	1,750
	Pro.	1,175
	Soc. Labor	221
Montana	Dem.	112,556
	Rep.	93,163
	Pro.	340
	Soc.	1,296
Nebraska	Rep.	329,880
	Dem.	233,246
Nevada	Dem.	29,623
	Rep.	24,611
New Hampshire	Dem.	119,668
	Rep.	109,916
	Soc.	46
New Jersey	Dem.	987,874
	Rep.	961,335
	Pro.	4,255
	Soc. Lab.	6,939
	Soc.	3,358
New Mexico	Dem.	81,389
	Rep.	70,688
	Pro.	148
New York	Dem.	2,478,598
	Am. Lab.	496,405
	Liberal	329,235
	(Total for Roosevelt	3,304,238)
	Rep.	2,987,647
	Ind. Govt.	14,352
	Soc.	10,553
North Carolina	Dem.	527,399
	Rep.	263,155
North Dakota	Rep.	118,535
	Dem.	100,144
	Soc.	943
	Pro.	549
Ohio	Rep.	1,582,293
	Dem.	1,570,763
Oklahoma	Dem.	401,549
	Rep.	319,424
	Pro.	1,663
Oregon	Dem.	248,635
	Rep.	225,365
	Soc.	3,785
	Pro.	2,362
Pennsylvania	Dem.	1,940,479
	Rep.	1,835,054
	Soc.	11,721
	Ind. Govt.	1,789
	Pro.	5,750
Rhode Island	Dem.	175,356
	Rep.	123,487
	Pro.	433
South Carolina	Dem.	90,601
	Southern Dem.	7,799
	Rep.	4,547
	Pro.	365
South Dakota	Rep.	135,365
	Dem.	96,711
Tennessee	Dem.	308,707
	Rep.	200,311
Texas	Dem.	821,605
	Rep.	191,425
	Texas Regulars	135,439
	Soc.	594
	Pro.	1,017
	Am. First	250
Utah	Dem.	150,088
	Rep.	97,891
	Soc.	340
Vermont	Rep.	71,527
	Dem.	53,820
Virginia	Dem.	242,276
	Rep.	145,243
	Pro.	459
	Soc.	417

	Soc. Lab.	90		Rep.	324,470
Washington	Dem.	486,774	Wisconsin	Rep.	674,532
	Rep.	361,689		Dem.	650,413
	Soc. Lab.	1,645		Soc.	13,205
	Pro.	2,396		Soc. Lab.	1,002
	Soc.	3,824	Wyoming	Rep.	51,921
West Virginia	Dem.	395,286		Dem.	49,419

VOTES FOR GOVERNORS, U. S. SENATORS, AND REPRESENTATIVES IN CONGRESS

ALABAMA

U. S. Senator		
Lister Hill	Dem.	202,604
J. A. Posey	Rep.	41,983
H. B. Parrish	Pro.	3,162
Representatives in Congress		
1. Frank W. Boykin	Dem.	19,082
2. George Grant	Dem.	24,180
3. George W. Andrews	Dem.	20,470
4. Sam Hobbs	Dem.	19,391
O. D. Beard	Rep.	3,554
5. Albert Rains	Dem.	25,317
6. Pete Jarman	Dem.	14,561
7. Carter Manasco	Dem.	21,671
I. B. Burdick	Rep.	11,202
8. John J. Sparkman	Dem.	24,023
9. Luther Patrick	Dem.	31,767
H. H. Grooms	Rep.	7,120

ARIZONA

Governor		
Sidney P. Osborn	Dem.	100,220
Jerrie W. Lee	Rep.	27,261
Charles R. Osburn	Pro.	1,161
U. S. Senator		
Carl Hayden	Dem.	90,335
Fred W. Pickett	Rep.	39,891
Representatives in Congress		
At Large		
John R. Murdock	Dem.	88,532
Richard F. Harless	Dem.	86,691
Margaret Adams Rockwell	Rep.	39,035
A. M. Ward	Rep.	36,352
A. Walter Gehres	Pro.	469

ARKANSAS

Governor		
Ben Laney	Dem.	186,401
Harley C. Stump	Rep.	30,442
U. S. Senator		
J. W. Fulbright	Dem.	182,499
Victor Wade	Rep.	31,942
Representatives in Congress		
1. E. C. Gathings	Dem.	32,510
2. Wilbur E. Mills	Dem.	24,977
3. J. W. Trimble	Dem.	20,053
Tom Sullins	Rep.	11,613
4. Fadjo Cravens	Dem.	30,310
5. Brooks Hays	Dem.	33,215
Alonzo A. Ross	Rep.	4,902
6. W. F. Norrell	Dem.	31,785
7. Oren Harris	Dem.	27,851

CALIFORNIA

U. S. Senator		
Sheridan Downey	Dem.	1,728,155
Frederick F. Houser	Rep.	1,576,553
Representatives in Congress		
1. Charles F. Lea	Dem., Rep.	92,706
2. Clair Engle	Dem.	48,201
Jesse M. Mayo	Rep.	27,312
3. J. Leroy Johnson	Rep., Dem.	131,705
4. Frank R. Havenner	Dem.	73,582
Thomas Rolph	Rep.	73,367

5. Richard J. Welch	Rep., Dem.	112,151
6. George P. Miller	Dem.	104,441
Albert E. Carter	Rep.	96,395
7. John H. Tolan	Dem., Rep.	81,762
Chesley M. Walter	Rep.	59,360
8. John Z. Anderson	Rep.	94,218
Arthur L. Johnson	Dem.	72,420
9. Bertrand W. Gearhart	Rep., Dem.	66,845
10. A. J. Elliott	Dem., Rep.	60,001
11. George E. Outland	Dem.	52,218
Fred J. Hart	Rep.	41,005
12. H. Jerry Voorhis	Dem.	77,385
Roy P. McLaughlin	Rep.	62,524
13. Ned R. Healy	Dem.	66,854
Norris Poulson	Rep.	54,792
14. Helen Gahagan Douglas	Dem.	65,729
William D. Campbell	Rep.	61,767
15. Gordon L. McDonough	Rep.	100,305
Hal Styles	Dem.	73,655
16. Ellis E. Patterson	Dem.	105,835
Jesse Randolph Kellems	Rep.	89,700
17. Cecil R. King	Dem., Rep.	147,217
18. Clyde G. Doyle	Dem.	95,090
Ward Johnson	Rep.	75,749
19. Chet Holifield	Dem.	65,758
Carlton H. Casjens	Rep.	25,852
20. Carl Hinshaw	Rep.	112,663
Archibald B. Young	Dem.	101,090
21. Harry R. Shepherd	Dem.	48,539
Earl S. Webb	Rep.	34,409
22. John Phillips	Rep., Dem.	88,537
23. Ed V. Izac	Dem.	86,707
James B. Abbey	Rep.	70,787

COLORADO

Governor		
John C. Vivian	Rep.	259,862
Roy Best	Dem.	236,086
U. S. Senator		
Eugene D. Millikin	Rep.	277,410
Barney L. Whatley	Dem.	214,335
Carle Whitehead	Soc.	3,143
Representatives in Congress		
1. Dean M. Gillespie	Rep.	90,151
Charles A. Graham	Dem.	83,253
2. William S. Hill	Rep.	83,264
David J. Miller	Dem.	49,079
3. J. Edgar Chenoweth	Rep.	69,492
Arthur M. Winnel	Dem.	53,904
4. Robert F. Rockwell	Rep.	38,671
John L. Heuschkel	Dem.	24,039

CONNECTICUT

Governor		
Raymond E. Baldwin	Rep.	418,289
Hurley	Dem.	392,417
McLevy	Soc.	16,475
Borden	Soc. Lab.	1,398
U. S. Senator		
Brian McMahon	Dem.	430,716
John A. Danaher	Rep.	391,748
Representatives in Congress		
At large		
Joseph F. Ryter	Dem.	424,146
B. J. Monkiewicz	Rep.	397,725
1. Herman P. Kopplemann	Dem.	120,100
William J. Miller	Rep.	102,257
2. Charles G. Woodhouse	Dem.	63,013
John D. McWilliams	Rep.	59,973
3. James P. Geelan	Dem.	82,472
Randolf Compton	Rep.	77,753
4. Clare Boothe Luce	Rep.	102,043
Margaret Connors	Dem.	100,135
5. Joseph E. Talbot	Rep.	60,137
Peter M. Higgins	Dem.	54,885

ELECTIONS OF 1944

DELAWARE

Governor		
Walter W. Bacon	Rep.	63,829
Isaac J. MacCollum	Dem.	62,156
Representatives in Congress		
At Large		
Philip A. Traynor	Dem.	63,649
Earle D. Willey	Rep.	62,378
Harold H. Vigneulle	Pro.	413

FLORIDA

Governor		
Willard Caldwell	Dem.	361,007
Bert L. Acker	Rep.	96,321
U. S. Senator		
Claude Pepper	Dem.	335,685
Miles H. Draper	Rep.	135,258
Representatives in Congress		
1. J. Hardin Peterson	Dem.	87,880
2. Emory H. Price	Dem.	66,604
3. Bob Sikes	Dem.	51,693
4. Pat Cannon	Dem.	65,900
Edith Shaffer Stearns	Rep.	25,643
5. Joe Hendricks	Dem.	48,602
Emory Akerman	Rep.	23,406
6. Dwight L. Rogers	Dem.	32,491
Edward W. Greb	Rep.	14,134

GEORGIA

U. S. Senator		
Walter F. George	Dem.	272,569
Representatives in Congress		
1. Hugh Peterson	Dem.	23,889
2. E. E. Cox	Dem.	21,313
3. Stephen Pace	Dem.	25,276
4. A. Sidney Camp	Dem.	27,375
5. Robert Ramspeck	Dem.	50,257
Henry A. Alexander	Ind.	2,929
6. Carl Vinson	Dem.	19,034
7. M. C. Tarver	Dem.	31,400
8. John S. Gibson	Dem.	21,916
9. John S. Wood	Dem.	25,880
10. Paul Brown	Dem.	25,102

IDAHO

Governor		
Charles C. Gossett	Dem.	109,527
W. H. Detweiler	Rep.	98,532
U. S. Senator		
Glen H. Taylor	Dem.	107,096
C. A. Bottolfsen	Rep.	102,373
Representatives in Congress		
1. Compton I. White	Dem.	49,581
Robert L. Brainard	Rep.	37,998
2. Henry Dworshak	Rep.	61,751
Phil J. Evans	Dem.	56,249

ILLINOIS

Governor		
Dwight H. Green	Rep.	2,013,270
Thomas J. Courtney	Dem.	1,940,999
Charles Storm	Soc. Lab.	6,906
Willis Ray Wilson	Pro.	5,590
U. S. Senator		
Scott W. Lucas	Dem.	2,059,023
Richard J. Lyons	Rep.	1,841,793
Frank Schnur	Soc. Lab.	7,312
Enoch A. Holtwick	Pro.	5,798
Representatives in Congress		
At Large		
Emily Taft Douglas	Dem.	2,030,753
Stephen A. Day	Rep.	1,839,518
Walter Klobuchar	Soc. Lab.	6,588
Elizabeth Stephens Carr	Pro.	5,798
1. William L. Dawson	Dem.	42,713
William E. King	Rep.	26,204

2.	William A. Rowan	Dem.	186,08
	Thomas J. Downs	Rep.	138,57
3.	Edward A. Kelly	Dem.	158,94
	Fred E. Busbey	Rep.	146,96
4.	Martin Gorski	Dem.	79,24
	Leo J. Kozicki	Rep.	19,34
5.	Adolph J. Sabath	Dem.	38,37
	Max Price	Rep.	11,92
6.	Thomas J. O'Brien	Dem.	211,05
	Charles J. Anderson, Jr.	Rep.	140,06
7.	William W. Link	Dem.	261,47
	Charles H. Garland	Rep.	217,20
8.	Thomas S. Gordon	Dem.	39,86
	John F. Uczciwek	Rep.	10,47
9.	Alexander J. Resa	Dem.	61,16
	Charles S. Dewey	Rep.	54,69
10.	Ralph E. Church	Rep.	193,94
	Curtis D. MacDougall	Dem.	153,64
11.	Chauncey W. Reed	Rep.	128,06
	Otto J. Hruby, Jr.	Dem.	65,29
12.	Noah M. Mason	Rep.	86,22
	Herbert J. Max	Dem.	55,23
13.	Leo E. Allen	Rep.	59,37
	Garret J. Schutt	Dem.	25,48
14.	Anton J. Johnson	Rep.	55,81
	Carl M. Seaberg	Dem.	46,75
15.	Robert B. Chiperfield	Rep.	58,35
	Ray Simpkins	Dem.	40,09
16.	Everett M. Dirksen	Rep.	70,30
	M. R. Clark	Dem.	48,77
17.	Leslie C. Arends	Rep.	52,70
	Ruth G. Fillingham	Dem.	26,73
18.	Jessie Sumner	Rep.	58,61
	Carl B. Jewell	Dem.	44,34
19.	Rolla C. McMillen	Rep.	70,94
	George M. Brown	Dem.	56,24
20.	Sid Simpson	Rep.	38,92
	Don Irving	Dem.	31,09
21.	Evan Howell	Rep.	62,87
	Thomas L. Jarrett	Dem.	50,05
22.	Melvin Price	Dem.	83,31
	Calvin D. Johnson	Rep.	80,61
23.	Charles W. Vursell	Rep.	56,71
	J. E. McMackin	Dem.	46,95
24.	James V. Heidinger	Rep.	42,92
	Early C. Phelps	Dem.	30,80
25.	C. W. "Runt" Bishop	Rep.	57,67
	Kent E. Keller	Dem.	50,14

INDIANA

U. S. Senator			
(for full term beginning Jan. 3, 1945)			
	Homer E. Capehart	Rep.	829,4
	Henry F. Schricker	Dem.	807,7
	George W. Holston	Pro.	12,2
	Marid B. Tomish	Soc.	1,9
(for unexpired term ending Jan. 3, 1945)			
	William E. Jenner	Rep.	857,2
	Cornelius O'Brien	Dem.	775,4
	Carl W. Thompson	Pro.	12,3
Representatives in Congress			
1.	Ray J. Madden	Dem.	75,6
	Otto G. Fifield	Rep.	46,9
	J. Ralston Miller	Pro.	3
	Arthur B. Frame	Soc.	3
2.	Charles A. Halleck	Rep.	78,0
	James Otis Cox	Dem.	48,1
	John W. Root	Pro.	6
3.	Robert A. Grant	Rep.	85,3
	Marshall F. Kizer	Dem.	78,6
	Granville B. Leeke	Pro.	9
4.	George W. Gillie	Rep.	81,1
	Robert W. Bushee	Dem.	53,6
	J. M. Dawson	Pro.	6
5.	Forest A. Harness	Rep.	94,2
	Bennett H. Rockey	Dem.	80,2
	Jasper A. Huffman	Pro.	3,2

6.	Noble J. Johnson	Rep.	75,517
	Olis G. Jamison	Dem.	60,758
	Pliny Cox	Pro.	422
7.	Gerald W. Landis	Rep.	73,417
	Arthur H. Greenwood	Dem.	62,136
	C. Manson Mood	Pro.	695
8.	Charles N. LaFollette	Rep.	84,095
	Charles J. Eichel	Dem.	76,905
	C. Dana Malpass	Pro.	709
9.	Earl Wilson	Rep.	62,831
	George W. Elliott	Dem.	49,380
	Garnett Jewell	Pro.	798
10.	Raymond S. Springer	Rep.	82,582
	Sidney E. Baker	Dem.	67,724
	Eugene S. Lewis	Pro.	1,744
11.	Louis Ludlow	Dem.	114,051
	Judson L. Stark	Rep.	108,503
	Ralph E. Webber	Pro.	754

IOWA

Governor

Robert D. Blue	Rep.	561,827
Mitchell	Dem.	437,684
Williamson	Pro.	2,815

U. S. Senator

Bourke B. Hickenlooper	Rep.	523,963
Guy M. Gillette	Dem.	494,229

Representatives in Congress

1.	Thos. E. Martin	Rep.	78,729
	Clair A. Williams	Dem.	60,048
2.	Henry O. Talle	Rep.	86,903
	Geo. C. Classen	Dem.	68,489
3.	John W. Gwynne	Rep.	74,901
	W. D. Kearney	Dem.	56,985
4.	Karl M. LeCompte	Rep.	59,658
	Harold J. Fleck	Dem.	49,098
5.	Paul Cunningham	Rep.	66,260
	Ralph N. Lynch	Dem.	56,138
	Betty A. Paddock	Soc.	192
6.	James I. Dolliver	Rep.	60,153
	Charles Hanna	Dem.	42,098
7.	Ben F. Jensen	Rep.	66,905
	Albert McGinn	Dem.	41,802
8.	Charles B. Hoeven	Rep.	58,537
	Lester S. Gillette	Dem.	45,682

KANSAS

Governor

Andrew F. Schoeppel	Rep.	463,110
Robert S. Lemon	Dem.	231,410
W. W. Tamplin	Soc.	2,283
David C. White	Pro.	7,794

U. S. Senator

Clyde M. Reed	Rep.	387,090
Thurman Hill	Dem.	272,053
Arthur G. Billings	Soc.	2,374
L. B. Dubbs	Pro.	7,674

Representatives in Congress

1.	Albert M. Cole	Rep.	71,567
	Ralph Ulm	Dem.	34,731
2.	Everett P. Scrivner	Rep.	68,815
	Albert Baker	Dem.	47,676
3.	Thomas P. Winter	Rep.	52,361
	Herman L. Gees	Dem.	34,645
4.	Ed H. Rees	Rep.	90,186
	William J. Kropp	Dem.	63,843
5.	Clifford R. Hope	Rep.	72,370
	A. C. Hawes	Dem.	32,557
6.	Frank Carlson	Rep.	63,035
	Dan M. McCarthy	Dem.	32,408

KENTUCKY

U. S. Senator

Alben W. Barkley	Dem.	464,053
James Park	Rep.	380,425

Representatives in Congress

1. Noble J. Gregory	Dem.	51,369
A. R. Anderson	Rep.	22,196
2. Earle C. Clements	Dem.	57,948
Otis White	Rep.	42,802
3. Emmet O'Neal	Dem.	79,922
Garland R. Hubbard	Rep.	59,190
4. Frank L. Chelf	Dem.	48,671
Chester O. Carrier	Rep.	40,317
5. Brent Spence	Dem.	45,228
Olin W. Davis	Rep.	32,606
6. Virgil Chapman	Dem.	63,404
George W. Boner	Rep.	44,214
7. A. J. May	Dem.	33,406
Elmer E. Gabbard	Rep.	30,165
8. Joe B. Bates	Dem.	48,969
Thomas S. Yates	Rep.	41,154
9. John M. Robsion	Rep.	68,90
H. F. Reed	Dem.	31,019
Emily L. B. McCamy	Pro.	25

LOUISIANA

U. S. Senator

John H. Overton	Dem.	287,36

Representatives in Congress

1. F. Edward Herbert	Dem.	55,88
2. Paul H. Maloney	Dem.	56,63
3. James Domengeaux	Dem.	28,12
4. Overton Brooks	Dem.	27,88
5. Charles E. McKenzie	Dem.	25,46
6. James H. Morrison	Dem.	38,56
7. Harry D. Larcade, Jr.	Dem.	26,93
8. A. Leonard Allen	Dem.	23,08

MAINE

Governor

Horace A. Hildreth	Rep.	131,84
—— Jullien	Dem.	55,78

Representatives in Congress

1. Robert Hale	Rep.	47,72
Andrew A. Pettis	Dem.	21,62
2. Margaret Chase Smith	Rep.	46,54
David H. Staples	Dem.	22,13
3. Frank Fellows	Rep.	35,64
Ralph E. Graham	Dem.	10,10

MARYLAND

U. S. Senator

Millard E. Tydings	Dem.	344,72
Blanchard Randall, Jr.	Rep.	213,70

Representatives in Congress

1. Dudley G. Roe	Dem.	30,25
Wilmer F. Davis	Rep.	29,29
2. H. Streett Baldwin	Dem.	97,23
Wilfred T. McQuaid	Rep.	73,46
3. Thomas D'Alesandro	Dem.	32,41
John W. Benson	Rep.	14,04
4. George H. Fallon	Dem.	47,08
Daniel Ellison	Rep.	32,41
5. Lansdale G. Sasscer	Dem.	51,31
C. Maurice Weidemeyer	Rep.	27,82
6. J. Glenn Beall	Rep.	63,07
Daniel F. McMullen	Dem.	45,87

MASSACHUSETTS

Governor

Maurice J. Tobin	Dem.	1,048,28
Horace T. Cahill	Rep.	897,76
Henning A. Blomen	Soc. Lab.	5,17
Guy S. Williams	Pro.	2,9

U. S. Senator

Leverett Saltonstall	Rep.	1,228,7
John H. Corcoran	Dem.	667,0
Bernard G. Kelly	Soc. Lab.	12,2
Tallmadge Root	Pro.	3,2

Representatives to Congress

1.	John W. Heselton	Rep.	63,671
	James P. McAndrews	Dem.	62,550
2.	Charles R. Clason	Rep.	75,571
	Michael W. Albano	Dem.	60,195
3.	Philip J. Philbin	Dem.	78,848
	Wilfred P. Bazinet	Rep.	49,300
4.	Pehr G. Holmes	Rep.	76,097
	Frank J. McGrail	Dem.	60,967
5.	Edith Nourse Rogers	Rep.	109,242
	Milton A. Wesson	Dem.	39,911
6.	George J. Bates	Rep.	87,211
	John M. Bresnahan	Dem.	42,937
7.	Thomas J. Lane	Dem.	78,008
	Ernest Bentley	Rep.	36,877
8.	Angier L. Goodwin	Rep.	79,912
	Frederick T. McDermott	Dem.	59,058
9.	Charles L. Gifford	Rep.	75,803
	William McAuliffe	Dem.	53,820
10.	Christian A. Herter	Rep.	100,334
	William A. Carey	Dem.	79,380
11.	James M. Curley	Dem.	75,469
	Lester W. Bowen	Rep.	39,523
12.	John W. McCormack	Dem.	97,469
	Henry J. Allen	Rep.	31,178
13.	Richard B. Wigglesworth	Rep.	97,013
	Andrew T. Clancy	Dem.	50,377
14.	Joseph William Martin, Jr.	Rep.	79,928
	Edmond P. Talbot	Dem.	48,993

MICHIGAN

Governor

Harry F. Kelly	Rep.	1,208,846
Edward J. Fry	Dem.	989,192
Seth A. Davey	Pro.	5,726
T. A. Grove	Soc. Lab.	1,348
Katherine Odell	Soc.	2,833
Leland L. Marion		1,982

Representatives in Congress

1.	George G. Sadowski	Dem.	103,782
	John B. Sosnowski	Rep.	24,542
2.	Earl C. Michener	Rep.	80,594
	Redmond M. Burr	Dem.	43,536
3.	Paul W. Shafer	Rep.	73,134
	Charles V. Hampton	Dem.	42,902
4.	Clare E. Hoffman	Rep.	68,233
	Bernard T. Foley	Dem.	37,754
5.	Bartel J. Jonkman	Rep.	73,034
	J. Neal Lamoreaux	Dem.	53,437
6.	William V. Blackney	Rep.	87,105
	Robert B. McLaughlin	Dem.	70,104
7.	Jesse P. Wolcott	Rep.	79,455
	Charles F. Mann	Dem.	40,298
8.	Fred L. Crawford	Rep.	75,700
	William A. Hemmer	Dem.	35,982
9.	Albert J. Engel	Rep.	56,308
	Arnold B. Coxhill	Dem.	33,705
10.	Roy O. Woodruff	Rep.	54,066
	William J. Kelly	Dem.	29,108
11.	Fred Bradley	Rep.	46,985
	Cecil W. Bailey	Dem.	32,400
12.	Frank E. Hook	Dem.	41,481
	John B. Bennett	Rep.	40,573
13.	George D. O'Brien	Dem.	80,565
	Clarence J. McLeod	Rep.	58,101
14.	Louis C. Rabaut	Dem.	98,988
	Claude G. McDonald	Rep.	76,358
15.	John D. Dingell	Dem.	100,879
	Harry Henderson	Rep.	57,070
16.	John Losinski	Dem.	95,483
	Albert A. Riddering	Rep.	59,456
17.	George A. Dondero	Rep.	116,242
	John W. L. Hicks	Dem.	87,767

MINNESOTA

Governor

	Edward J. Thye	Rep.	701,185
	Byron G. Allen	Dem., F-L.	430,132
	Gerald M. York	Indust. Gov.	7,151

Representatives in Congress

1.	August H. Andresen	Rep.	77,798
	Andrew Meldahl	Dem., F-L.	48,301
2.	Joseph P. O'Hara	Rep.	91,867
	L. J. Kilbride	Dem., F-L.	29,548
3.	William Gallagher	Dem., F-L.	71,856
	Richard P. Gale	Rep.	69,277
4.	Frank T. Starkey	Dem., F-L.	64,434
	Melvin J. Maas	Rep.	59,994
5.	Walter H. Judd	Rep.	81,798
	Edgar T. Buckley	Dem., F-L.	62,761
6.	Harold Knutson	Rep.	76,421
	Harry J. O'Brien	Dem., F-L.	38,947
	Edward L. Wurst	Fellowship	3,014
7.	H. Carl Andersen	Rep.	75,315
	Arthur F. Nellermoe	Dem., F-L.	38,949
8.	William A. Pittenger	Rep.	62,600
	Wm. McKinnon	Dem., F-L.	58,131
9.	Harold C. Hagen	Rep.	58,080
	Halvor Langslet	Dem., F-L.	40,018

MISSISSIPPI

Representatives in Congress

1.	John E. Rankin	Dem.	17,493
	A. P. Wilkay	Rep.	562
2.	Jamie L. Whitten	Dem.	16,251
	William McDonough	Rep.	218
3.	William M. Whittington	Dem.	16,222
	R. C. Patrick	Rep.	606
4.	Thomas G. Abernethy	Dem.	13,343
5.	Arthur Winstead	Dem.	22,934
6.	William M. Colmer	Dem.	31,742
	Ruth L. Smith	Rep.	1,434
7.	Dan R. McGehee	Dem.	29,594
	L. R. Collins	Rep.	2,313

MISSOURI

Representatives in Congress

1.	Wat Arnold	Rep.	52,008
	Edward M. Jayne	Dem.	50,476
2.	Max Schwabe	Rep.	60,857
	Lue C. Lozier	Dem.	60,587
	Fred Umstead	Soc.-Lab.	11
3.	William C. Cole	Rep.	61,720
	Maurice Hoffman	Dem.	60,273
4.	C. Jasper Bell	Dem.	60,594
	John W. Mitchell	Rep.	45,381
	Karl L. Oberhen	Soc.-Lab.	14
5.	Roger C. Slaughter	Dem.	53,320
	Ralph B. Innis	Rep.	48,127
	Walter S. Engel	Soc.-Lab.	27
6.	Marion T. Bennett	Rep.	71,705
	George A. (Doc) Clason	Dem.	54,095
7.	Dewey Short	Rep.	76,180
	A. L. McCawley	Dem.	42,929
8.	A. S. J. Carnahan	Dem.	54,010
	William P. Elmer	Rep.	52,924
	William Doyen	Soc.-Lab.	12
9.	Clarence Cannon	Dem.	50,594
	William Barton	Rep.	44,476
10.	Orville Zimmerman	Dem.	55,243
	Ralph Hutchison	Rep.	42,129
11.	John B. Sullivan	Dem.	69,351
	Louis E. Miller	Rep.	48,435
	Magalena Schmidt	Soc.-Lab.	37
12.	Walter C. Ploeser	Rep.	118,394
	Phelim O'Toole	Dem.	110,060
13.	John J. Cochran	Dem.	76,408
	William McNaught	Soc.-Lab.	35

MONTANA

Governor

	Sam C. Ford	Rep.	116,461
	Leif Erickson	Dem.	89,224

Representatives in Congress

1.	Mike Mansfield	Dem.	57,008
	M. S. Galasso	Rep.	26,141
	Leverne Hamilton	Soc.	841
2.	James F. O'Connor	Dem.	61,123
	F. F. Haynes	Rep.	51,372
	E. Spriggs	Soc.	732

NEBRASKA

Governor

	Dwight Griswold	Rep.	410,136
	George W. Olsen	Dem.	128,760

Representatives in Congress

1.	Carl T. Curtis	Rep.	100,816
	Charles A. Chappell	Dem.	43,401
2.	Howard Buffett	Rep.	78,686
	Mabel Gillespie	Dem.	53,637
3.	Karl Stefan	Rep.	84,251
	George Hally	Dem.	34,317
	W. B. Brazda	Ind.	4,675
4.	A. L. Miller	Rep.	72,647
	Tom Lanigan	Dem.	34,394
	Willis B. Furman	Ind.	8,102

NEVADA

U. S. Senator

	Patrick A. McCarran	Dem.	30,595
	George W. Malone	Rep.	21,816

Representatives in Congress

At Large

	Berkeley L. Bunker	Dem.	32,648
	Rex Bell	Rep.	19,096

NEW HAMPSHIRE

Governor

	Charles M. Dale	Rep.	115,799
	James J. Powers	Dem.	102,232

U. S. Senator

	Charles W. Tobey	Rep.	110,549
	Joseph J. Betley	Dem.	106,508

Representatives in Congress

1.	Chester E. Merrow	Rep.	57,537
	Fortunat E. Normandin	Dem.	55,502
2.	Sherman Adams	Rep.	55,911
	Harry Carlson	Dem.	46,872
	Rita Collyer	Ind. Rep.	35

NEW JERSEY

U. S. Senator (to fill vacancy)

	H. Alexander Smith	Rep.	940,051
	Elmer H. Wene	Dem.	910,096
	George W. Ridout	Pro.	9,873
	John C. Butterworth	Soc.-Lab.	1,997
	Moins Riger	Soc.	1,593

Representatives in Congress

1.	Charles A. Wolverton	Rep.	87,950
	John F. Gorman	Dem.	86,178
	Edward J. Moss, Jr.	Pro.	250
2.	T. Millet Hand	Rep.	51,194
	Edison Hedges	Dem.	42,862
3.	James C. Auschincloss	Rep.	80,438
	Arnold E. Ascherfeld	Dem.	60,769
4.	D. Lane Powers	Rep.	68,647
	Don Guinness	Dem.	54,680
5.	Charles A. Eaton	Rep.	87,129
	Andrew D. Desmond	Dem.	61,153
6.	Clifford P. Case	Rep.	84,143
	Walter H. Van Hoesen	Dem.	65,344
7.	J. Parnell Thomas	Rep.	86,759
	James J. Cannon	Dem.	44,423
8.	Gordon Canfield	Rep.	75,479
	Harry Smith	Dem.	53,136

9.	Harry L. Towe	Rep.	93,687
	Elmer I. Zabriskie	Dem.	53,847
10.	Fred A. Hartley, Jr.	Rep.	62,004
	Luke A. Kiernan	Dem.	53,577
11.	Frank L. Sundstrom	Rep.	58,586
	John J. Francis	Dem.	52,376
	Wesley U. Morris	Pro.	1,988
12.	Robert Winthrop Kean	Rep.	67,680
	John W. Suling	Dem.	63,087
	Ira V. Smith	Pro.	2,420
13.	Mary T. Norton	Dem.	89,736
	Frank J. V. Gimino	Rep.	38,336
14.	Edward J. Hart	Dem.	79,158
	Otto Trankler	Rep.	46,076

NEW MEXICO

Governor

John J. Dempsey	Dem.	76,443
Carroll G. Gunderson	Rep.	71,113

Representatives in Congress

At Large

Clinton D. Anderson	Dem.	85,244
Antonio M. Fernandez	Dem.	80,752
Manuel Lujan	Rep.	66,644
Ben F. Meyer	Rep.	66,309

NEW YORK

U. S. Senator

Robert F. Wagner	Dem., Am. Lab., & Liberal	3,294,576
Thomas J. Curran	Rep.	2,899,497
Eric Hass	Ind. Gov.	15,244

Representatives in Congress

1.	Edgar A. Sharp	Rep.	92,044
	Edward Hudson	Dem., A-L.	40,294
2.	Leonard W. Hall	Rep.	131,906
	John S. Thorp	Dem., A-L.	62,24
3.	Henry J. Latham	Rep.	108,11
	George H. Bruns	Dem., A-L.	70,16
4.	William B. Barry	Dem., A-L.	73,09
	Alfred J. Phillips	Rep.	65,39
5.	James A. Roe	Dem., A-L.	90,33
	Raymond S. Richmond	Rep.	76,01
6.	James J. Delaney	Dem., A-L.	81,22
	Otto Schuler	Rep.	65,82
7.	John J. Delaney	Dem., A-L., Lib.	73,86
	Roy M. D. Richardson	Rep.	42,71
8.	Joseph L. Pfeifer	Dem., A.-L.	55,56
	Frank W. Porcaro	Rep.	37,81
9.	Eugene J. Keogh	Dem., Lib.	63,40
	Harry Chiert	Rep.	34,51
	Jacob A. Salzman	A.-L.	16,52
10.	Andrew L. Somers	Dem., A-L.	78,75
	Philip Kahaner	Rep.	36,85
	Louis P. Goldberg	Lib.	20,71
11.	James J. Heffernan	Dem., A-L.	95,21
	John Patrick Devery	Rep.	49,44
12.	John J. Rooney	Dem., A-L.	51,41
	William G. Nolan	Rep.	42,00
13.	Donald L. O'Toole	Dem., A-L., Lib.	81,64
	Clarence W. Archibald	Rep.	53,85
14.	Leo F. Rayfiel	Dem., Lib.	85,53
	Bernard P. Levy	Rep.	32,39
	James V. King	A-L.	28,76
15.	Emanuel Celler	Dem., A-L., Lib.	105,94
	Nathan J. Paulson	Rep.	24,65
16.	Ellsworth B. Buck	Rep.	55,64
	Rae L. Egbert	Dem., A-L.	48,41
17.	Joseph Clark Baldwin	Rep.	77,19
	Max Waterman	Dem.	57,76
	Seon Felshin	A-L.	12,27
18.	Vito Marcanotnio	Dem., Rep., A-L.	82,31
19.	Samuel Dickstein	Dem., A-L.	69,97
	William I. Lehrfeld	Rep.	25,49
20.	Sol Bloom	Dem., A-L.	87,72
	Lawrence S. Mayers	Rep.	36,19

21.	James H. Torrens	Dem., A-L., Lib.	91,747
	Herbert Malkin	Rep.	40,718
22.	Adam C. Powell, Jr.	Dem., Rep., A-L.	83,140
23.	Walter A. Lynch	Dem., A-L., Lib.	126,245
	William J. Waterman	Rep.	32,594
24.	Benjamin J. Rabin	Dem., A-L., Lib.	102,684
	Morris Schaeffer	Rep.	18,461
25.	Charles A. Buckley	Dem., A-L., Lib.	114,248
	Roderick Stephens	Rep.	50,274
	John A. Devany, Jr.	Constitutional	19,561
26.	Peter A. Quinn	Dem., A-L.	91,665
	Samuel T. Shay	Rep.	70,746
27.	Ralph W. Gwinn	Rep.	90,699
	Joseph E. Venuti	Dem., A-L.	55,756
28.	Ralph A. Gamble	Rep.	90,623
	John H. Jackson	Dem., A-L.	47,646
29.	Augustus W. Bennet	Dem., A-L., Lib., Good Govt.	70,630
	Hamilton Fish	Rep., Jeff.	62,583
30.	Jay LeFevre	Rep.	88,067
	Sharon J. Mauhs	Dem., A-L.	51,725
31.	Bernard W. (Pat) Kearney	Rep.	85,178
	Alexander Grasso	Dem., A-L.	56,706
32.	William T. Byrne	Dem., A-L.	85,147
	Miles A. McGrane, Jr.	Rep.	63,603
33.	Dean P. Taylor	Rep.	95,299
	Thomas P. McLoughlin	Dem.	52,354
	Henry G. Bell	A-L.	4,530
34.	Clarence E. Kilburn	Rep.	75,532
	John D. Van Kennen	Dem.	44,557
35.	Hadwen C. Fuller	Rep.	65,857
	Samuel H. Miller, Jr.	Dem., A-L.	60,025
36.	Clarence E. Hancock	Rep.	79,535
	George M. Haight	Dem., Am.-L.	70,012
37.	Edwin Arthur Hall	Rep.	75,246
	James S. Byrne	Dem., A-L.	33,465
38.	John Taber	Rep.	75,432
	Frank J. Erwin	Dem.	36,327
	Walter O'Hagan	A-L.	3,294
39.	W. Sterling Cole	Rep.	75,740
	Charlotte D. Curren	Dem.	31,152
	Julian P. Bretz	A-L.	4,396
40.	George F. Rogers	Dem., A-L.	90,369
	Joseph J. O'Brien	Rep.	88,782
41.	James W. Wadsworth	Rep.	71,988
	Jean Walrath	Dem., A-L.	41,991
42.	Walter G. Andrews	Rep.	83,781
	William Haeseler, Jr.	Dem., A-L.	62,590
43.	Edward J. Elsaesser	Rep.	74,366
	Raymond J. Barnes	Dem., A-L.	71,216
44.	John C. Butler	Rep.	72,402
	Leon A. Dombrowski	Dem., A-L.	72,164
45.	Daniel A. Reed	Rep.	64,456
	Orrin H. Parker	Dem., A-L.	36,050

NORTH CAROLINA

Governor			
	R. Gregory Cherry	Dem.	528,995
	Frank C. Patton	Rep.	230,998
U. S. Senator			
	Clyde R. Hoey	Dem.	533,813
	A. I. Ferree	Rep.	226,037
Representatives in Congress			
1.	Herbert C. Bonner	Dem.	30,149
	R. Clarence Dozier	Rep.	3,139
2.	John H. Kerr	Dem.	34,949
	Thomas J. Moore	Rep.	1,513
3.	Graham A. Barden	Dem.	30,447
	H. B. Kornegay	Rep.	12,055
4.	Harold D. Cooley	Dem.	53,340
	J. Ira Lee	Rep.	18,046
5.	John H. Folger	Dem.	42,982
	John J. Ingle	Rep.	21,669
6.	Carl T. Durham	Dem.	50,003
	Worth Henderson	Rep.	18,195
7.	J. Bayard Clark	Dem.	39,342
	Josiah A. Maultsby	Rep.	10,260

8. W. O. Burgin	Dem.	48,244
B. C. Brock	Rep.	32,450
9. Robert L. Doughton	Dem.	50,595
Emory C. McCall	Rep.	35,506
10. Joe W. Ervin	Dem.	50,605
Loomis F. Klutz	Rep.	26,757
11. A. L. Bulwinkle	Dem.	41,576
C. V. Moss	Rep.	21,829
12. Zebulon Weaver	Dem.	52,042
Lewis P. Hamlin	Rep.	28,965

NORTH DAKOTA

Governor		
Fred G. Aandahl		107,863
William T. Depuy		59,961
Alvin C. Strutz		38,997
U. S. Senator		
John Moses	Dem.	95,102
Gerald P. Nye	Rep.	69,530
Lynn Stambaugh	Ind.	44,596
Bernard J. O'Laughlin	Ind.	705
L. D. Harris	Pro.	489
Representatives in Congress		
At Large		
William Lemke	Rep.	101,007
Charles R. Robertson	Rep.	91,425
Halvor L. Halvorson	Dem.	56,699
J. R. Kennedy	Dem.	45,308
Usher L. Burdick	Ind.	39,888
George McClellan	Ind.	3,135
A. C. Townley	Ind.	2,307

OHIO

Governor		
Frank J. Lausche	Dem.	1,603,809
James Garfield Stewart	Rep.	1,491,450
U. S. Senator		
Robert A. Taft	Rep.	1,500,609
William G. Pickrel	Dem.	1,482,610
Representatives in Congress		
At Large:		
George H. Bender	Rep.	1,542,422
William Glass	Dem.	1,362,843
1. Charles H. Elston	Rep.	82,373
Frank J. Richter	Dem.	62,617
2. William E. Hess	Rep.	78,185
J. Harry Moore	Dem.	61,473
3. Edward J. Gardner	Dem.	104,247
Harry P. Jeffrey	Rep.	94,064
4. Robert F. Jones	Rep.	67,829
Earl Ludwig	Dem.	42,983
5. Cliff Clevenger	Rep.	48,490
T. Walter Williams	Dem.	22,740
6. Edward O. McCowen	Rep.	45,284
John W. Bush	Dem.	42,167
7. Clarence J. Brown	Rep.	84,770
John L. Cashin	Dem.	52,403
8. Frederick C. Smith	Rep.	51,253
Roy Warren Roof	Dem.	34,494
9. Homer R. Ramey	Rep.	82,735
John F. Hunter	Dem.	77,693
10. Thomas A. Jenkins	Rep.	43,388
Elsie Stanton	Dem.	23,986
11. Walter E. Brehm	Rep.	38,263
Mell G. Underwood, Jr.	Dem.	33,098
12. John M. Vorys	Rep.	97,856
Forrest F. Smith	Dem.	82,503
13. Alvin F. Weichel	Rep.	67,298
14. Walter B. Huber	Dem.	117,770
Ed Rowe	Rep.	115,145
15. P. W. Griffiths	Rep.	47,710
Olney R. Gillogly	Dem.	31,756
16. William R. Thom	Dem.	85,755
Henderson H. Carson	Rep.	75,921
Harry T. Whiteleather	Ind.	1,149
17. J. Harry McGregor	Rep.	73,206
Thomas A. Wilson	Dem.	43,271

18.	Earl R. Lewis	Rep.	65,847
	Ross Michener	Dem.	63,098
19.	Michael J. Kirwan	Dem.	120,191
	Herschel Hunt	Rep.	69,403
20.	Michael A. Feighan	Dem.	75,218
	A. R. McNamara	Rep.	23,945
21.	Robert Crosser	Dem.	77,525
	Harry C. Gahan	Rep.	22,288
22.	Frances P. Bolton	Rep.	185,187
	Don O. Cameron	Dem.	137,546

OKLAHOMA

U. S. Senator

	Elmer Thomas	Dem.	390,851
	William J. Otjen	Rep.	309,222

Representatives in Congress

1.	George B. Schwabe	Rep.	71,545
	Dennis Bushyhead	Dem.	68,561
2.	W. G. Stigler	Dem.	39,052
	E. O. Clark	Rep.	28,282
3.	Paul Stewart	Dem.	51,135
	Russell Overstreet	Rep.	16,016
4.	Lyle H. Boren	Dem.	47,733
	Ralph H. Kirchner	Rep.	29,582
5.	A. S. Mike Monroney	Dem.	85,132
	Howard B. Hopps	Rep.	50,207
6.	Jed Johnson	Dem.	41,987
	Ted R. Fisher	Rep.	27,979
7.	Victor Wickersham	Dem.	35,895
	J. Warren White	Rep.	14,790
8.	Ross Rizley	Rep.	43,878
	Philip C. Ferguson	Dem.	31,737

OREGON

U. S. Senator

4 year term

	Guy Cordon	Rep.	260,631
	Willis Mahoney	Dem.	192,305

6 year term

	Wayne Morse	Rep.	269,095
	Edgar W. Smith	Dem.	174,140

Representatives in Congress

1.	James W. Mott	Rep.	80,106
	O. Henry Oleen	Dem.	39,928
2.	Lowell Stockman	Rep.	43,145
	C. J. Shorb	Dem.	22,498
3.	Homer D. Angell	Rep.	95,605
	Lester Sheeley	Dem.	77,814
4.	Harris Ellsworth	Rep.	53,356
	Floyd K. Dover	Dem.	30,024

PENNSYLVANIA

U. S. Senator

	Francis J. Myers	Dem.	1,864,735
	James J. Davis	Rep.	1,840,943
	J. Henry Stump	Soc.	14,129
	Charles Palmer	Pro.	8,599

Representatives in Congress

1.	William A. Barett.	Dem.	73,289
	James Gallaghar	Rep.	52,159
2.	William T. Granahan	Dem.	97,351
	Charles M. Mosser	Rep.	57,849
3.	Michael J. Bradley	Dem.	80,920
	Joseph M. Pratt	Rep.	57,856
4.	John Edward Sheridan	Dem.	80,367
	Franklin J. Maloney	Rep.	41,018
5.	William J. Green, Jr.	Dem.	74,744
	C. Frederick Pracht	Rep.	63,085
6.	Herbert J. McGlinchey	Dem.	78,123
	Hugh D. Scott	Rep.	75,794
7.	James Wolfenden	Rep.	72,289
	Vernon A. O'Rourke	Dem.	68,161
8.	Charles L. Gerlach	Rep.	59,497
	Marie M. Bickert	Dem.	43,073
9.	J. Ronald Kinzer	Rep.	71,129
	H. Clay Burkholder	Dem.	44,952

10.	John W. Murphy	Dem.	59,047
	Walter W. Kohler	Rep.	45,593
11.	Daniel J. Flood	Dem.	71,843
	Thomas Byron Miller	Rep.	65,922
12.	Ivor D. Fenton	Rep.	65,960
	Charles E. Klinger	Dem.	50,153
13.	Daniel K. Hoch	Dem.	43,233
	Randolph Stauffer	Rep.	33,240
	Raymond S. Hofses	Soc.	3,501
14.	Wilson D. Gillette	Rep.	51,333
	Clement J. Reap	Dem.	27,653
15.	Robert F. Rich	Rep.	52,826
	Richard F. Hartzell	Dem.	33,750
16.	Samuel K. McConnell, Jr.	Rep.	79,555
	Marvin B. Brunner	Dem.	45,392
17.	Richard M. Simpson	Rep.	45,198
	John W. Mann	Dem., Ind	24,875
18.	John C. Kunkel	Rep.	81,814
	Howard K. Beard	Dem.	49,080
19.	Leon H. Gavin	Rep.	49,670
	John C. Brecht	Dem.	27,655
	Robert G. Burnham	Pro.	1,152
20.	Francis E. Walter	Dem.	51,594
	Charles A. P. Bartlett	Rep.	38,460
21.	Chester H. Gross	Rep.	55,984
	Josiah W. Gitt	Dem.	50,548
22.	D. Emmert Brumbaugh	Rep.	50,000
	Bernard J. Clark	Dem.	36,476
23.	J. Buell Snyder	Dem.	44,585
	Carl H. Hoffman	Rep.	37,062
24.	Thomas E. Morgan	Dem.	52,500
	Gilbert E. Koedel	Rep.	31,940
25.	Louis E. Graham	Rep.	61,544
	Samuel G. Neff	Dem.	60,473
26.	Harve Tibbott	Rep.	58,743
	Eddie McCloskey	Dem.	52,994
27.	Augustine B. Kelley	Dem.	61,203
	Edward J. Howard	Rep.	41,289
28.	Robert L. Rodgers	Rep.	68,675
	James F. Lavery	Dem.	57,044
29.	Howard E. Campbell	Rep.	63,086
	John F. Lowers	Dem.	62,592
30.	Robert J. Corbett	Rep.	60,391
	Thomas E. Scanlon	Dem.	56,423
31.	James G. Fulton	Rep.	71,222
	James A. Wright	Dem.	61,104
32.	Herman P. Eberharter	Dem.	83,724
	Gregory Zatkovich	Rep.	33,221
33.	Samuel A. Weiss	Dem.	75,796
	Ray A. Liddle	Rep.	33,651

RHODE ISLAND

Governor

	J. Howard McGrath	Dem.	179,010
	Norman D. MacLeod	Rep.	116,158

Representatives in Congress

1.	Aime J. Forand	Dem.	88,179
	Charles A. Curran	Rep.	54,233
	Charles R. Napier	Ind.	102
2.	John E. Fogarty	Dem.	87,190
	Charles T. Algern	Rep.	63,777

SOUTH CAROLINA

U. S. Senator

	Olin D. Johnston	Dem.	94,556
	James B. Gaston	Ind. Dem.	3,807
	Osceola F. McKaine	Rep.	3,214

Representatives in Congress

1.	L. Mendel Rivers		15,326
	O. H. Wilcox		1,190
2.	J. J. Riley		19,342
	H. G. Willingham		398
3.	Butler B. Hare		13,105
	D. F. Merrill		404
4.	Jos. R. Bryson		20,988
	J. G. Jones		934

5.	J. P. Richards		14,435
	W. I. Bost		278
6.	John L. McMillan		14,164
	C. B. Ruffin		291

SOUTH DAKOTA

Governor

	M. Q. Sharpe	Rep.	148,646
	Lynn Fellows	Dem.	78,276

U. S. Senator

	Chan Gurney	Rep.	145,248
	George M. Bradshaw	Dem.	82,199

Representatives in Congress

1.	Karl Mundt	Rep.	113,769
	Grover Lothrop	Dem.	63,981
2.	Francis Case	Rep.	33,119
	H. W. Clarkson	Dem.	14,869

TENNESSEE

Governor

	Jim Nance McCord	Dem.	274,978
	—— Kilgo	Rep.	155,733
	—— Neal		6,669

Representatives in Congress

1.	B. Carroll Reece	Rep.	45,498
2.	John Jennings, Jr.	Rep.	45,416
	Lowell Blanchard	Dem.	36,441
3.	Estes Kefauver	Dem.	32,497
	Foster Johnson	Rep.	11,541
	Ernest W. Forstner	Ind.	3,894
4.	Albert Gore	Dem.	20,684
	E. M. Shelley	Rep.	9,642
	E. H. McLean	Ind.	1,435
5.	Harold Earthman	Dem.	27,087
	W. H. Crowell	Rep.	4,598
6.	J. Percy Priest	Dem.	28,752
	D. C. Loftis	Ind.	855
7.	Wirt Courtney	Dem.	22,592
8.	Tom Murray	Dem.	19,822
	A. Bradley Frazier	Rep.	11,509
9.	Jere Cooper	Dem.	25,250
	Homer Tatum	Rep.	3,510
10.	Clifford Davis	Dem.	47,569

TEXAS

Governor

	Coke R. Stevenson	Dem.	1,007,826
	B. J. Peasley	Rep.	100,287

Representatives in Congress

1.	Wright Patman	Dem.	39,407
2.	J. M. Combs	Dem.	54,258
	Lamar Cecil	Rep.	3,442
3.	Lindley Beckworth	Dem.	36,654
	O. P. Stephens	Rep.	2,668
4.	Sam Rayburn	Dem.	40,039
5.	Hatton W. Sumners	Dem.	62,459
	Charles D. Turner	Rep.	25,027
6.	Luther A. Johnson	Dem.	36,884
7.	Tom Pickett	Dem.	32,850
	J. Perrin Willis	Rep.	1,239
8.	Albert Thomas	Dem.	90,963
	Lester B. Robinson	Rep.	7,555
9.	J. J. Mansfield	Dem.	56,194
	Lewis Allen	Rep.	3,742
10.	Lydon B. Johnson	Dem.	44,602
	Arthur H. Bartelt	Rep.	3,262
11.	W. R. Poage	Dem.	36,266
	Charles R. Nelson	Rep.	1,968
12.	Fritz Lanham	Dem.	59,119
13.	Ed Gossett	Dem.	53,503
	L. C. Harper	Rep.	2,586
14.	John E. Lyle	Dem.	53,756
15.	Milton H. West	Dem.	36,362
16.	R. E. Thomason	Dem.	31,658
17.	Sam Russell	Dem.	43,785
	Clifton Woody	Rep.	1,468

18. Eugene Worley	Dem.	47,638
McD. Bybee	Rep.	3,435
19. George H. Mahon	Dem.	52,426
20. Paul J. Kilday	Dem.	39,394
21. O. C. Fisher	Dem.	47,796
Maurice J. Lehman	Rep.	5,474

UTAH

Governor		
Herbert B. Maw	Dem.	123,907
J. Brackin Lee	Rep.	122,851
U. S. Senator		
Elbert D. Thomas	Dem.	148,748
Adam S. Bennion	Rep.	99,532
Representatives in Congress		
1. Walter K. Granger	Dem.	59,755
B. H. Stringham	Rep.	43,642
2. J. Will Robinson	Dem.	89,844
Quayle Cannon, Jr.	Rep.	54,440

VERMONT

Governor		
Mortimer R. Proctor	Rep.	78,907
Ernest H. Bailey	Dem.	40,835
U. S. Senator		
George D. Aiken	Rep.	81,094
Harry W. Witters	Dem.	42,136
Representatives in Congress		
At Large		
Charles A. Plumley	Rep.	76,800
Robert W. Ready	Dem.	42,230

VIRGINIA

Representatives in Congress		
1. S. Otis Bland	Dem.	23,284
Walter Johnson	Rep.	5,391
2. Ralph H. Daughton	Dem.	21,268
Thomas L. Woodward	Rep.	9,304
W. B. Shafer, Jr.	Ind.	6,302
3. Dave E. Satterfield, Jr.	Dem.	32,918
4. P. H. Drewry	Dem.	15,724
5. T. G. Burch	Dem.	24,781
Howard H. Carwile	Rep.	4,509
6. Clifton A. Woodrum	Dem.	30,844
John Strickler	Rep.	13,798
Ruby Mae Wilkes	Soc.	226
7. A. Willis Robertson	Dem.	24,967
D. Wampler Earman	Rep.	16,738
8. Howard W. Smith	Dem.	31,618
Elizabeth Chilton Murray	Ind. Dem.	11,019
Lawrence Michael	Ind. Rep.	9,019
Clarke T. Robb	Soc.	925
8. Jno. W. Flannagan, Jr.	Dem.	33,943
Ralph L. Lincoln	Rep.	26,373

WASHINGTON

Governor		
William C. Wallgreen	Dem.	428,834
Arthur B. Langlie	Rep.	400,604
U. S. Senator		
Warren G. Magnuson	Dem.	452,013
Harry P. Cain	Rep.	364,356
Representatives in Congress		
1. Hugh DeLacy	Dem.	118,354
Robert H. Harlin	Rep.	103,099
2. Henry M. Jackson	Dem.	74,676
Payson Peterson	Rep.	48,974
3. Charles Savage	Dem.	57,942
Fred Norman	Rep.	53,503
4. Hal Holmes	Rep.	56,211
Al McCoy	Dem.	37,150
5. Walt Horan	Rep.	62,648
Edward J. Reilly	Dem.	57,235
6. John M. Coffee	Dem.	80,679
Thor C. Tollefson	Rep.	51,119

WEST VIRGINIA

Governor

	Clarence W. Meadows	Dem.	395,122
	Daniel Boone Dawson	Rep.	330,649

Representatives in Congress

1.	Matthew M. Neely	Dem.	58,313
	A. C. Schiffler	Rep.	57,363
2.	Jennings Randolph	Dem.	58,695
	Melvin C. Muntzing	Rep.	49,722
3.	Cleveland M. Bailey	Dem.	57,912
	Edward G. Rohrbough	Rep.	52,457
4.	Hubert S. Ellis	Rep.	68,204
	E. B. Pennybacker	Dem.	64,986
5.	John Kee	Dem.	65,463
	Hartley Sanders	Rep.	40,568
6.	E. H. Hedrick	Dem.	84,369
	J. W. Maxwell	Rep.	60,457

WISCONSIN

Governor

	Walter S. Goodland	Rep.	697,740
	Daniel W. Hoan	Dem.	536,357
	George A. Nelson	Soc.	76,028
	Georgia Cozzini	Soc. Lab.	1,122

U. S. Senator

	Alexander Wiley	Rep.	634,513
	Howard J. McMurray	Dem.	537,144
	Harry Sauthoff	Prog.	73,089
	Walter H. Uphoff	Soc.	9,964
	Adolph Wiggert	Soc. Lab.	1,664

Representatives in Congress

1.	Lawrence H. Smith	Rep.	74,223
	John J. Kyle	Prog.	24,013
2.	Robert K. Henry	Rep.	74,937
	John W. Nash	Dem.	34,145
	Herbert C. Schenk	Prog.	22,095
3.	William H. Stevenson	Rep.	74,092
	William D. Carroll	Dem.	26,978
	Olaf H. Johnson	Ind.	4,591
4.	Thaddeus F. Wasielewski	Dem.	103,583
	Robert Blackwood	Rep.	55,375
	Stanley Bundy	Prog.	4,170
5.	Andrew J. Biemiller	Dem.	88,606
	Lewis D. Thill	Rep.	78,834
6.	Frank B. Keefe	Rep.	74,487
	Henry Danes	Dem.	36,180
7.	Reid F. Murray	Rep.	73,531
	William H. Ludwig	Dem.	31,991
8.	John W. Byrnes	Rep.	64,623
	LaVern R. Dilweg	Dem.	57,458
9.	Merlin Hull	Prog.	48,064
	Adolph Maassen	Soc.	736
10.	Alvin E. O'Konski	Rep.	54,731
	Elizabeth Hawkes	Dem.	29,773
	Harry P. Van Guilder	Prog.	9,567

WYOMING

Representatives in Congress

At Large

Barrett	Rep.	53,533
Norris	Dem.	42,569

STATE ISSUES

Alabama

The following proposed amendments were submitted:

1. Relating to compensation for officials
Yes 83,159
No 36,216
2. Exemption of service men from payment of poll taxes
Yes 143,023
No 27,605
3. Relating to nominations
Yes 47,209
No 76,819
4. Relating to term and duties of Sheriff
Yes 78,812
No 80,181
5. Salaries of Officials
Yes 75,477
No 37,720
6. No limit to life of banking companies
Yes 70,546
No 37,662

Arizona

An amendment relating to gross income tax rejected

Yes 22,698
No 77,693

A referendum measure relating to Old Age Assistance rejected

Yes 37,287
No 48,228

Arkansas

An Open Shop Amendment was ratified

Yes 105,300
No 87,652

An amendment providing for a fish and game commission adopted

Yes 151,564
No 38,964

A proposal for four year term for governor rejected

Yes 78,551
No 107,698

An initiated bill relating to public hospitals rejected

Yes 44,333
No 142,554

California

One act and eleven proposed amendments to the constitution submitted to the voters as follows:

1. Veterans Bond Act
   Yes 2,385,571
   No 333,892
2. Veterans Tax Exemption
   Yes 2,244,775
   No 577,949
3. Salaries for state officers
   Yes 1,285,238
   No 1,163,543
4. Taxation exemptions for religious and hospital organizations
   Yes 1,532,141
   No 1,277,160
5. Reinstatement of public officers returning from armed forces
   Yes 2,230,692
   No 372,722
6. Annual sessions of legislature
   Yes 935,763
   No 1,408,066
7. Expenses of members of the legislature
   Yes 1,285,929
   No 1,081,759
8. Validating tax deeds
   Yes 745,771
   No 1,539,318
9. Funds for Elementary Schools
   Yes 1,753,818
   No 996,808
10. Increased compensation for officers
    Yes 1,250,876
    No 1,156,956
11. Retirement payments
    Yes 1,017,924
    No 2,089,102
12. Right of employment
    Yes 1,304,418
    No 1,893,589

Colorado

Four proposals submitted

1. Jury service for women
   Yes 195,793
   No 127,057
2. Appropriations for old age pensions
   Yes 243,863
   No 140,187
3. Restricting rights of certain aliens to acquire real estate
   Yes 173,652
   No 195,752
4. Preference to service men in civil service examination
   Yes 256,563
   No 107,100

Florida

Nine proposals submitted

1. Intangible taxes
   Yes 95,632
   No 47,904
2. Apportionment
   Yes 63,304
   No 69,953
3. Justice of the peace
   Yes 94,312
   No 47,248
4. Criminal courts
   Yes 91,276
   No 48,549
5. Labor
   Yes 147,860
   No 122,770
6. Municipal government
   Yes 69,364
   No 72,186
7. Terms of office
   Yes 89,760
   No 44,230
8. County commissioners
   Yes 84,548
   No 64,986
9. Hillsborough County
   Yes 72,376
   No 49,707

Idaho

Constitutional amendments.

1. Four year term for executive officers
   Yes 83,483
   No 51,061
2. Proposing a state tax commission
   Yes 72,266
   No 49,968
3. Exemption from taxation of federal property
   Yes 62,583
   No 56,408

Two proposals, one to abolish the State Board of Prison Commissioners and one to give the Governor the pardoning power, were rejected.

Illinois

Banking amendment approved.

Yes 973,159
No 434,767

Kansas

Amendment relating to homesteads ratified

Yes 334,014
No 115,502

Louisiana

Twenty-one amendments to the constitution proposed, all adopted, except Nos. 6 and 21. Those adopted related to conservation, borrowing money, bond issues, marketing, taxation, zoning, support of schools, courts, old age assistance, adopted children, and apportionment of state representatives.

Maine

Amendment to the constitution adopted.

Yes 139,805
No 33,172

Maryland

Amendments proposed and voted upon:

1. To repeal Article 38 of the Declaration of Rights
   Yes 99,371
   No 118,179
2. Relating to the Court of Appeals
   Yes 130,478
   No 72,773
3. Relating to the assignment of judges
   Yes 97,995
   No 94,239
4. Providing for States Attorney's Fees
   Yes 123,340
   No 67,295
5. Providing for Baltimore Redevelopment Commission
   Yes 113,945
   No 66,401
6. Relating to publication of amendments to the constitution
   Yes 121,483
   No 59,183

Massachusetts

Four proposals for amending the constitution and one referendum on a law submitted.

Amendment relating to pardons
Yes 650,475
No 405,039

Amendment relating to summary of proposed amendments for information of voters
Yes 861,148
No 124,517

Amendment for annual sessions of the General Court
Yes 557,930
No 514,675

Amendment for absent voting for disabled voters
Yes 893,139
No 197,782

Referendum of law relating to games of chance
Yes 738,387
No 351,918

Michigan

Amendment changing restriction of furnishing water
Yes 860,219
No 568,090

Proposals relating to eligibility of legislators for state offices, compensation of members of the legislature, and charter for Wayne County rejected.

Minnesota

An amendment relating to Air Navigation Facilities adopted
Yes 737,091
No 264,149

Montana

Amendment relating to apportionment of public school funds rejected
Yes 53,089
No 86,270

One for four year terms for county officers rejected
Yes 68,898
No 76,057

One relating to the practice of osteopathy rejected
Yes 72,206
No 108,882

Nebraska

Two proposed amendments rejected. Prohibition amendment received
Yes 130,947
No 397,190

Amendment providing for certain revenues to be spent on roads received
Yes 205,262
No 271,901

Nevada

Proposition for filling vacancies in the General Assembly
Yes 25,266
No 6,730

To amend the Old Age Pension Law
Yes 19,078
No 16,573

North Dakota

Two proposed amendments, one relating to legislative pay and the other to municipal liquor stores, both rejected.

An initiated measure relating to financing of highway construction approved.
Yes 128,421
No 48,253

An initiated measure relating to sale of liquor rejected.

North Carolina

Five proposed amendments submitted as follows:

1. Making certain officers constitutional
   Yes 234,683
   No 106,321
2. Making notaries public eligible to hold other offices:
   Yes 205,373
   No 127,965
3. State Board of Education
   Yes 164,723
   No 107,742
4. Compensation for Lieutenant Governor
   Yes 181,723
   No 140,477
5. Abolishing Private examination of wife for sale of homestead
   Yes 183,802
   No 155,359

Ohio

Two amendments adopted by the voters, both having to do with the Judicial department, by facilitating procedure before the supreme court. The vote was 1,429,635 to 611,726 and 1,279,216 to 633,843.

Oregon

Six proposed constitutional amendments and three bills referred to the voters.

1. Relating to securing bank deposits
   Yes 228,744
   No 115,745
2. Managerial form of county government
   Yes 175,716
   No 154,504
3. Providing for a war veterans fund
   Yes 190,540
   No 178,581
4. Relating to forfeiture of voting privilege
   Yes 183,855
   No 156,219
5. Educational aid to war veterans
   Yes 238,350
   No 135,317

6. Taxation on sales of personal property

Yes	96,697
No	269,276

7. State monopoly in sale of liquor

Yes	228,853
No	180,158

8. Increasing tax for support of schools

Yes	177,153
No	186,976

9. Monthly payments on income tax

Yes	180,691
No	219,981

Rhode Island

By a vote of 55,447 to 34,069 the voters approved a bond issue of $754,000 for the purchase of the Masonic Temple.

South Carolina

Seven proposed amendments all adopted. They related to aid to the needy, primary elections, funds for airports, and local problems.

South Dakota

Chapter 262, Laws of 1943

Yes	77,021
No	92,842

Chapter 264, Laws of 1943

Yes	86,392
No	72,253

Texas

Three amendments adopted by the voters. One authorized cities and towns to provide a pension system for their appointive officers and employees; another gave a similar power to the state legislature; and a third gave certain powers to the Commissioners Court to reallocate tax levies.

Virginia

Two amendments proposed adopted by the voters. One provided for a board with power to commute capital punishment

Yes	176,545
No	61,399

The other, by a vote of 140,353 to 89,048, authorized the General Assembly to set aside certain funds for the support of public schools.

Washington

Two initiative measures and one referendum measure rejected. Two constitutional amendments approved.

Wyoming

Relating to fixing salaries of county officers

Yes	69,848
No	16,781

Relating to official ballots

Yes	66,976
No	10,325

PERIODICAL PUBLICATIONS

American Mercury
570 Lexington Ave., New York City.
American Political Science Review
Harris Hall, Northwestern University, Evanston, Ill.
American Spectator
683 Broadway, New York City.
Commonweal, The
386 Fourth Ave., New York City.
Congressional Digest
2131 LeRoy Place N.W., Washington, D. C.
Current History
65 Fifth Ave., New York City.
Journal of Political Economy
5750 Ellis Ave., Chicago.
Nation, The
20 Vesey St., New York City.
New Republic, The
40 East 49th Street, New York City.
Newsweek
152 West 42nd Street, New York City.
Political Science Quarterly
Columbia University, New York City.
Time Weekly Newsmagazine (The)
9 Rockefeller Plaza, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

American Antiquarian Society, Salisbury and Park Ave., Worcester, Mass.
American Baptist Historical Society, Upland Avenue, Chester, Pa.
American Catholic Historical Association, Catholic University, Brookland Station, Washington, D. C.
American Historical Assn., Library of Congress Annex, Study Room 274, Washington, D. C.

American Irish Historical Society, 991 Fifth Ave., New York City.

American Jewish Historical Society, Broadway and 122nd Street, New York City.

American Numismatic Society, 156th Street and Broadway, New York City.

American Scenic and Historic Preservation Society, 287 Convent Avenue, New York City.

American Society of Church History, 5757 University Ave., Chicago, Ill.

Canadian Historical Assn., Ottawa, Canada.

Freethinkers of America Inc., 370 West 35th Street, New York City.

Hispanic Society of America, Broadway between 155th and 156th St., New York City.

Holland Society of New York, 90 West Street, New York City.

Huguenot Society of America, 122 East 58th Street, New York City.

Methodist Historical Library, 150 Fifth Ave., New York City.

Mississippi Valley Historical Assn., Cedar Rapids, Iowa.

New England Historic Genealogical Society, 9 Ashburton Place, Boston, Mass.

Presbyterian Historical Society, 520 Witherspoon Building, Philadelphia, Pa.

Proportional Representation League, 1417 Locust St., Philadelphia, Pa.

Society for the Preservation of New England Antiquities, 141 Cambridge St., Boston, Mass.

Steuben Society of America, 369 Lexington Ave., New York City.

Thomas Paine National Historical Assn., North Ave., New Rochelle, N. Y.

United States Catholic Historical Society, 346 Convent Ave., New York City.

Woodrow Wilson Foundation, The, 8 West 40th Street, New York City.

POLITICAL

Academy of Political Science, Fayerweather Hall, Columbia University, New York City.

American Academy of Political and Social Science, 3457 Walnut St., Philadelphia, Pa.

American Political Science Assn., 105 Harris Hall, Northwestern University, Evanston, Ill.

League for Industrial Democracy, 112 E. 19th Street, New York City.

Women's National Democratic Club Inc., 50 West 45th St., New York City.

Women's National Republican Club, 3 West 51st Street, New York City.

DIVISION II

INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

THE UNITED STATES IN WARTIME

By Winifred N. Hadsel
Research Associate, Foreign Policy Association

UNITED NATIONS CONFERENCE ON POST-WAR EDUCATION

During 1944 the United States participated in a number of inter-Allied conferences designed to cope with the war's vast heritage of social, economic, and political problems.

In April the United States sent its first delegation to the Conference of Allied Ministers of Education in London, an organization that had been established a year and a half previously for the purpose of developing cooperation among the United Nations in the realm of education. At this session of the Conference particular emphasis was placed on the practical and immediate educational needs of the devastated countries, whose representatives estimated that the damage done to the educational equipment in their homelands totalled £101,375,717. Although members of the Conference recognized the imperative need for educational reform in the Axis countries, they did not discuss this subject since it had been specifically reserved to the Allied armies and the Combined Civil Affairs Committee.

In addition to considering ways and means of procuring equipment and personnel needed by the various Allied nations, the Conference explored the possibilities of developing long-range educational cooperation among the United Nations. In discussing this type of cooperation the conferees emphasized the fact that education, as a source and transmitter of ideas, is directly related to the problem of security.

The United States delegation was particularly active in connection with the establishment of permanent machinery for cultural collaboration, and American representatives submitted a tentative draft for a United Nations Organization for Educational and Cultural Reconstruction. This proposed draft has been submitted to the respective governments represented at the Conference: Britain, Belgium, Czecho-Slovakia, Greece, Luxembourg, the Netherlands, Norway, Poland, Yugoslavia, France, the British Dominions, Russia, China, and the United States. Since the text of this draft is under diplomatic negotiations among the several governments represented at the Conference, it has not yet been published. However, the following abstract, giving the essential features of the proposed organization, was released to the press in London on April 20, 1944:

Section I—A statement of the underlying reasons why international cooperation in educational reconstruction should be attempted.

Section II—Definition of the functions of the projected organization in terms which should permit it to work effectively in the fields of educational rehabilitation and reconstruction and to develop ultimately into a permanent body with broader activities.

Section III—A declaration that

membership shall be open to all the United Nations and Associated Nations and to such other nations as shall be accepted by the Assembly, upon application hereto, after the cessation of hostilities with the Axis.

Section IV—A list of the agencies of the proposed organization, including an Assembly with equal representation and votes for all member states, an Executive Board to be elected by the Assembly and an International Secretariat.

Section V—The financial section, which states that administrative expenses shall be shared by the member nations on a basis to be agreed upon by the Assembly. It also provides for the creation of an Emergency Rehabilitation Fund controlled by the Emergency Fund Committee.

Section VI—Provisions relating to ratification, amendment, and interpretation.

Section VII—Provisions requiring member nations to supply information about education and cultural matters, defining the legal status of the organization and its staff, providing for cooperation between the organization and existing international organizations in the educational and cultural fields and governing the relationship of the organization to any agency for coordinating public international organizations.

BRETTON WOODS MONETARY CONFERENCE

The United Nations Monetary and Financial Conference, which met at Bretton Woods, New Hampshire, from July 1 to July 22, proposed two measures that form the financial phase of the general program being worked out by the United Nations to improve world economic conditions. These measures call for the establishment of an International Monetary Fund and an International Bank for Reconstruction and Development.

The International Monetary Fund of $8,800,000,000 is designed to overcome the pre-war currency disorders that hampered international trade. The fund would provide a method whereby the exchange rates of its members' currencies could be adjusted in an orderly fashion when such readjustment becomes necessary. In this way, traders in foreign markets would have some assurance regarding the amount of their own national currency they would realize from the proceeds of a foreign sale and would not feel obliged to confine their trade only to a few countries with whom their government had established stable exchange rates. The scheme for a Bank for Reconstruction and Development, with its total capital of $10,000,000,000, calls for the use of one-fifth of this sum as a fund for lending operations, while the remainder is to be used as a contingent guarantee fund for guaranteeing issues made on the public market either by itself or other public or private bodies. In substance, therefore, the Bank would extend the League of Nations' Loan method of the 1920's.

The proposals made at Bretton Woods represent the combined efforts of the technical experts from the 44 United and Associated Nations represented at the Conference and are the product not only of the discussions held at Bretton Woods but of months of study over an extended period of time prior to the Conference. The two basic schemes that laid the foundation for the entire discussion were the "White Plan," prepared by Dr. Harry White of the United States Treasury—for an international stabilization fund and an investment bank—and the "Keynes' Plan" for an "International Clearing Union" suggested by Lord Keynes. During 1943 these plans, as modified by Anglo-American discussions and important Canadian suggestions were communicated to other United Nations governments, and early in 1944 Russian experts came to Washington to discuss both the stabilization fund and the bank.

Unconditional acceptance of the Bretton Woods proposals apparently awaits the development of further evidence of probable trends in the post-war world economy. For the assumption on which the International Monetary Fund and the International

Bank rest is that the post-war world will be a place in which nations will be able to balance their incoming and outgoing products without resort to discriminatory currency practices. In short, the Bretton Woods scheme depends for its success on the existence of a world in which payments are naturally brought into equilibrium by expansion, not forced into it by contraction.

The agreements worked out at the Conference are now before the governments of the United and Associated Nations for their consideration and action. The Fund agreement is scheduled to go into effect when approved by nations having 65 per cent of the quotas; the Bank when approved by members of the Fund whose minimum subscription to the Bank comprises 65 per cent of the total subscriptions scheduled.

SUMMARY OF FINAL DRAFT OF THE UNITED NATIONS MONETARY AGREEMENTS

Article One sets out its purposes which are: (1) to promote international monetary cooperation through a permanent institution which provides the machinery for consultation and collaboration on international monetary problems; (2) to facilitate the expansion and balanced growth of international trade, and to contribute thereby to the promotion and maintenance of high levels of employment and real income and to the development of the resources of all members as primary objectives of economic policy; (3) to promote exchange stability, to maintain orderly exchange stability and exchange arrangements among members, and to avoid competitive exchange depreciation; (4) to assist in the establishment of a multilateral system of payments in respect of current transactions between members, and in the elimination of foreign exchange restrictions which hamper the growth of world trade; (5) to give confidence to members to make the Fund's resources available to them under adequate safeguards, thus providing them with the opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity; (6) to shorten the duration and lessen the degree of disequilibrium in the balances of payment of members.

Article Two sets conditions of membership. It provides that the "original members shall be those countries represented at the Conference whose governments accept membership before Dec. 31, 1945, and that membership shall be open to the governments of other countries at such times and in accordance with such terms as may be prescribed by the Fund." The proposal drafted by the Conference will be submitted to the legislative bodies of the countries represented for legal ratification. Agreement of delegates at the Conference to the proposal does not bind their governments.

Article Three of the text deals with quotas and subscriptions to the $8,800,000,000 Fund. Quotas for countries represented at the Bretton Woods Conference have been set, and are part of the final Fund document. The plan provides further that the "quotas of other members shall be determined by the Fund . . . at intervals of five years' review and, if it deems appropriate, propose an adjustment of the quotas. It may also . . . consider at any other time the adjustment of any quota at the request of the member concerned. A four-fifths majority of the total voting power shall be required for any change in quotas and no quota shall be changed without the consent of the member concerned." The article further provides that "each member shall pay in gold, as a minimum, the smaller of (1) 25 per cent of its quota, or (2) 10 per cent of its net official holdings of gold and dollars as at the date . . . the Fund notifies members . . . it will shortly be in a position to begin exchange transactions."

"Each member shall furnish to the Fund the data necessary to determine its net official holdings of gold and U.S. dollars . . ."

"Each member shall pay the balance of its quota in its own currency." The text contains a clause providing for an alternative gold figure agreed to by the Fund in the case of countries which, by reason of enemy occupation, can not determine gold holdings accurately.

Article Four of the plan provides that "the par value of the currency of each member shall be expressed in terms of gold as a common denominator, or in terms of the United States dollar of the weight and fineness in effect on July 1, 1944."

"Each member undertakes in collaborate with the Fund to promote exchange stability, to maintain orderly exchange arrangements with other members, and to avoid competitive exchange alterations." The Fund plan provides machinery for changing the par value of a member's currency "only on the proposal of the member and only after consultation with the Fund." The plan allows for an initial 10 per cent increase in par value to which the Fund shall raise no objection.

Section 5 of Article Four provides for further increases in this manner; in the case of "(an increase which) does not exceed a further 10 per cent of the initial par value the Fund may either concur or object, but shall declare its attitude within 72 hours if the member so request."

"(On changes not within these groups) the Fund may either concur or object, but shall be entitled to a longer period of time to declare its attitude." The plan also provides that members can make such changes in par value as do not affect the international transactions of members of the Fund, without concurrence.

Article Four also outlines penalties for unauthorised changes in par value by a member. The sanctions which can be evoked are ineligibility to use the resources of the Fund, or in certain cases expulsion from membership. In the matter of uniform changes in par value the plan provides: ". . . the Fund, by a majority of the total voting power, may make uniform proportionate changes in the par value of the currencies of all members provided each such change is approved by every member which has a 10 per cent or more total of the quotas. The par value . . . shall, however, not be changed under this provision if, within 72 hours, the member informs the Fund that it does not wish the par value of its currency to be changed by such action."

Article Five sets methods for conducting transactions with the Fund. It says (in part): "Each member shall deal with the Fund only through its Treasury, Central Bank, Stabilisation Fund, or other similar fiscal agency, and the Fund shall deal only with or through the same agencies."

Article Five also sets up a system of sliding scale charges which the Fund may levy against members, based on the average daily balance of its currency held by the Fund in excess of the member's quota. This system of fees is an important part of the Fund's operation, since the amounts involved are sizable and are designed to discourage continuing unbalanced trends of currencies flowing into the Fund.

Article Six makes it impossible for a member to use the Fund "to meet a large or sustained outflow of capital."

Article Seven is devoted to the control of scarce currencies in the Fund. It says (in fact): "If the Fund finds that a general scarcity of a particular currency is developing, it may so inform members and may issue a report setting forth the cause of the scarcity and containing recommendations designed to bring it to an end. A representative of the member whose currency is involved shall participate in the preparation of the report.

"The Fund may, if it deems such action appropriate to replenish its holdings of any member's currency, take either or both of the following steps: (1) Propose to the member that . . . the latter lend its currency to the Fund or that, with the approval of the member, the Fund borrow such currency from some other [source which is prepared to] . . . make such loans to the Fund or to approve the borrowing of its currency by the Fund from any other source. (2) Require the member to sell its currency to the Fund for gold."

Article Eight sets forth the general obligations of Fund members to avoid restrictions on currency payments, to avoid discriminatory currency practices, and to agree to the furnishing of whatever information "the fund may require . . . for its operations, including, as the minimum necessary" . . . official holdings at home and abroad by banking and financial agencies, other than official agencies, of (1) gold, (2) foreign exchange; production of gold; gold exports and imports; total exports and imports of merchandise; international balance of payments, including (1) trade in goods and services, (2) gold transactions, and (3) known capital transactions; international investment position; national income; . . . buying and selling rates for foreign currencies; exchange controls; details of amounts awaiting clearance in respect of commercial and financial transactions.

Article Nine established the status, immunities, and privileges of the Fund. It shall be immune from judicial process; and from all taxation and Customs duties.

Article Ten provides for "co-operation with . . . other international organisations."

Article Eleven requires member nations not to engage in any transactions with non-member nations which would be contrary to "the provision of this agreement or the purposes of the Fund."

Article Twelve provides that the Fund "shall have a board of governors, executive directors, managing directors, and a staff . . . there shall be not less than 12 directors, who need not be governors . . . five shall be appointed by the five members with the largest quotas . . . two shall be elected by the American Republics not entitled to appoint directors . . . five shall be elected by other members not entitled to appoint directors." Election is to be by proportional representation. The executive directors shall function in continuous session. They shall select a managing director who shall not be a governor or an executive director. Each member shall have 250 votes, plus one additional vote for each part of its "equivalent to 100,000 United States dollars."

Article Thirteen establishes that "the principal office of the Fund shall be located in the territory of the member having the largest quota, and agencies or branch offices may be established in the territories of the other members."

Article Fourteen is devoted to the Fund's status in the transitional period, and establishes that "the Fund is not intended to provide facilities for relief or reconstruction, or to deal with international indebtedness growing out of the war." It also provides for members' withdrawing exchange restrictions "as soon as they are satisfied that they will be able in the absence of such restrictions to settle their balance of payments in a manner which will not unduly encumber their access to the resources of the Fund."

Article Fifteen recognises the right of members to withdraw from the Fund "at any time, by transmitting a notice in writing to the Fund at its principal office." This section also traces in technical detail the settlement of accounts with members withdrawing, "with reasonable dispatch, and by agreement between (the member) and the fund."

Article Sixteen is devoted to emergency provisions, the most important of which is "the executive directors by unanimous vote may suspend for a period of not more than 120 days the operation of (the main functions) of the fund."

Article Seventeen sets a method for amending the Fund plan "when three-fifths of the members, having four-fifths of the total voting power have accepted an amendment . . ."

Articles Eighteen and Nineteen are devoted to the interpretation and explanation of terms.

Article Twenty establishes that "this agreement shall enter into force when it has been signed on behalf of governments having 65 per cent of the total quotas . . . but in no event . . . before May 1, 1945."

THE RECONSTRUCTION BANK

The articles of the International Bank for Reconstruction and Development provide that the agreement shall enter into force when it has been signed on behalf of governments whose minimum subscriptions comprise not less than 65 per cent of the total subscriptions of the nations at the Conference.

The first article sets out its purposes as follows: (1) to assist in the reconstruction and development of territories of members by facilitating the investment of capital for productive purposes, including the restoration of economies destroyed or disrupted by war, the reconversion of productive facilities to peacetime needs and the encouragement of the development of productive facilities and resources in less developed countries; (2) to promote private foreign investment by means of guarantees or participations in loans and to supplement private investment when private capital is not available on reasonable terms; (3) to promote the long-range balanced growth of international trade and encourage international investment for the development of the productive resources of members thereby assisting in raising productivity, the standard of living and conditions of labour in their territories; (4) to arrange loans made or guaranteed so that the more useful and urgent projects, large and small alike, will be dealt with first; (5) to conduct its operations so as to bring about a smooth transition from a wartime to peacetime economy.

The guaranteeing in whole or in part of loans made by private investors through the usual investment channels is to constitute the major operation of the Bank, accounting for 80 per cent of its resources. Twenty per cent, or £2,000,000,000, plus earned surpluses, is to be the extent of direct loans by the Bank.

The original members of the Bank shall be those members of the International Monetary Fund which accept membership in the Bank before Dec. 31, 1945.

The authorised capital stock of the Bank shall be $10,000,000,000 (U.S. dollars) divided into 100,000 shares available for subscription only by members. Capital stock can be increased when voted by a three-quarters majority of the total voting power.

Twenty per cent of the subscription shall be paid or subject to call as needed by the Bank for its operation, the remaining 80 per cent being subject to call by the Bank or when required to meet the obligations of the Bank.

Two per cent of the subscriptions shall be payable in gold or U.S. dollars provided that any original member whose metropolitan territory has suffered from enemy occupations or hostilities during the present war shall be granted the right to postpone payment in gold of one-half of one per cent (a quarter of the payment) for five years. An original member whose gold reserves are still seized or immobilised as a result of the war may postpone all payments until such date as the Bank shall decide.

For the Bank to make loans to members it must be satisfied that the borrowers would be unable to obtain the loan otherwise under reasonable conditions and due regard must also be paid to the prospects that the borrower or the guarantor will be in a position to meet his obligations. In guaranteeing a loan made by other investors the Bank shall receive suitable compensation.

All the powers of the bank shall be vested in the Board of Governors. When a government ceases to be a member it shall remain liable for its direct obligations to the Bank and contingent liabilities with respect to loans and guarantees entered into thereafter by the Bank.

Amendments may be made to the bank agreement when three-fifths of the members having four-fifths of the total voting power have accepted the proposed amendment.

SECOND QUEBEC CONFERENCE

Thirteen months after the Quebec Conference of 1943, President Roosevelt and Prime Minister Churchill again met at the historic citadel to discuss the conduct of the war and related political and economic problems. At the 1944 Conference, held Sept. 11-16, the leaders of the two countries commanding the greatest military and naval strength in the world pledged that the doom of Japan would be achieved in the months to come, just as Germany's collapse was "now approaching its final stages" as the result of comparable decisions reached the year before.

Although the emphasis of the Conference was apparently on the Pacific war, broader issues were also under discussion. On Sept. 13 Secretary of the Treasury Morgenthau's arrival at the meeting led to rumors that the "Morgenthau plan," providing for a drastic economic treatment of Germany that would remove from the Reich certain key heavy industries vital to rearmament, had been laid before the Conference. However, the fact that a new lend-lease agreement with Britain, designed to facilitate Britain's partial industrial reconversion after Germany's collapse, was announced later in the year, seemed to indicate that the American Secretary had been called to the Conference in this connection.

During the President's and the Prime Minister's half-hour press conference, which concluded the Conference, on Sept. 16, the following joint statement summing up the work of the conferees was issued:

"The President and the Prime Minister and the Combined Chiefs of Staff held a series of meetings, during which they discussed all aspects of the war against Germany and Japan. In a very short space of time they reached decisions on all points both with regard to the completion of the war in Europe, now approaching its final stages, and the destruction of the barbarians of the Pacific.

"The most serious difficulty with which the Quebec conference has been confronted has been to find room and opportunity for marshaling against Japan the massive forces which each and all of the nations concerned are ardent to engage against the enemy."

HYDE PARK STATEMENT ON ITALY

Following their meeting at Quebec, President Roosevelt and Prime Minister Churchill continued their discussions of post-war European policies at Hyde Park (Sept. 18-19). For military reasons the President and Prime Minister declined to divulge the results of their talks on most of the subjects considered. They did issue, however, an important joint statement on Italy (Sept. 26) that promised to ease Allied restraints on the Italian people:

"The Italian people, freed of their Fascist and Nazi overlordship, have in these last twelve months demonstrated their will to be free, to fight on the side of the democracies, and to take a place among the United Nations devoted to principles of peace and justice.

"We believe we should give encouragement to those Italians who are standing for a political rebirth in Italy, and are completing the destruction of the evil Fascist system. We wish to afford the Italians a greater opportunity to aid in the defeat of our common enemies.

"The American and the British people are of course horrified by the recent mob action in Rome, but feel that a greater responsibility placed on the Italian people and on their own Government will most readily prevent a recurrence of such acts.

"An increasing measure of control will be gradually handed over to the Italian Administration, subject of course to that Administration's proving that it can maintain law and order and the regular administration of justice. To mark this change the Allied Control Commission will be renamed 'the Allied Commission.'

"The British High Commissioner in Italy will assume the additional title of Ambassador. The United States representative in Rome already holds that rank. The Italian Government will be invited to appoint direct representatives to Washington and London.

"First and immediate considerations in Italy are the relief of hunger and sickness and fear. To this end we instructed our representatives at the UNRRA [United Nations Relief and Rehabilitation Administration] conference to declare for the sending of medical aids and other essential supplies to Italy. We are happy to know that this view commended itself to other members of the UNRRA Council.

"At the same time, first steps should be taken toward the reconstruction of an Italian economy—an economy laid low under the years of the misrule of Mussolini and ravished by the German policy of vengeful destruction.

"These steps should be taken primarily as military aims to put the full resources of Italy and the Italian people into the struggle to defeat Germany and Japan. For military reasons we should assist the Italians in the restoration of such power systems, their railways, motor transport, roads and other communications as enter into the war situation, and for a short time send engineers, technicians and industrial experts into Italy to help them in their own rehabilitation.

"The application to Italy of the Trading With the Enemy Acts should be modified so as to enable business contacts between Italy and the outside world to be resumed for the benefit of the Italian people.

"We all wish to speed the day when the last vestiges of fascism in Italy will have been wiped out, and when the last German will have left Italian soil, and when there will be no need of any Allied troops to remain—the day when free elections can be held throughout Italy, and when Italy can earn her proper place in the great family of free nations."

SECOND SESSION OF UNRRA

The United Nations Relief and Rehabilitation Administration Council met at Montreal Sept. 16-26 for its first policy-making session since its creation at Atlantic City in November 1943. Among the decisions taken by the Council, as it completed its plans for post-war civilian relief, were those calling for the extension of membership to Denmark following its liberation and the dispatching of a special mission to Latin America to speed up collection of those nations' contributions to UNRRA.

The favorable decision of the UNRRA Council upon the Anglo-American proposal that Italy should become a recipient of relief marked the first extension of UNRRA aid to a former Axis country. This aid was of a definitely limited character, however, for the $50,000,000 allotted for this purpose was restricted to medical care and aid to displaced persons. Moreover, the measure providing this aid to Italy definitely stated that it should not constitute a precedent for UNRRA operations in other enemy or ex-enemy territories.

Russia's relationship to UNRRA continued to pose problems. Because of the vast destruction suffered by the Russians, the Soviet Union was not expected to contribute anything to UNRRA beyond a share of the administrative expenses, and the Council further reduced this share by changing it from 15 to 10 per cent of the $11,500,000 budget for 1945. However, the Russians did not reveal whether or not they intended to permit UNRRA supplies and administrators to enter their own devastated areas and the United Nations liberated by the Red Army—notably Poland, Yugoslavia, and Czecho-Slovakia.

INTERNATIONAL LABOR ORGANIZATION CONFERENCE

In order to revise its machinery and objectives in light of the new international situation, the Governing Body of the International Labor Organization called a full conference in Philadelphia, with 41 nations in attendance, beginning April 20 and lasting until May 12. As a result of this meeting the ILO modified its organization in two important respects: it prepared for its separation from the League of Nations and incorporation in whatever new international organization is created, and it provided for the holding of more regional conferences in the future with a view to making recommendations on specific needs of regional areas.

Of equal importance was the conference's efforts to redefine its objectives. These goals were set forth in the Declaration of Philadelphia and in a set of proposals which, if the United Nations so decide, may be incorporated in the peace treaty or in separate treaties voluntarily negotiated by individual nations. The gist of these pronouncements is that the ILO will seek to promote full employment, rising standards of living, facilities for the training and transference of labor, including migrations; wages and hours calculated "to insure a just share of the fruits of progress to all," and a minimum wage. It will also promote the cooperation of labor and management "in the continuous improvement of productive efficiency"; collaboration of workers and employers in the application of social and economic legislation; and the right of union organization and collective bargaining. Although the Australian delegation attempted to secure concrete proposals along these lines, it failed to obtain the insertion of actual plans for attaining "full employment" and "complete social security" into these documents.

Among the important developments at the conference was the attempt by Vicente Lombardo Toledano, Mexican Workers' delegate and outstanding leader of Latin-American labor, to prevent the seating of the Argentine delegate, since he had been appointed in a fascist manner. Toledano was supported by the majority of workers' delegates, but he was successfully opposed by conservative labor elements at the conference. Another significant event was the formation of a bloc of European delegates under the leadership of Adrien Tixier, Gen. de Gaulle's Commissioner for Social Affairs, to promote the interests of countries in which reconstruction rather than mere reconversion would be the paramount post-war problem.

Although Russia was absent from the conference, having been ejected from the League in 1940 because of the Soviet attack on Finland, its influence was greatly felt by the conferees. On the third day of the conference, *Izvestia* suggested that the ILO should cease to exist since it had not participated in the United Nations war against the Axis and since Finland and Hungary, as members of the League of Nations, belonged to the organization.

CHICAGO AVIATION CONFERENCE

The International Civil Aviation Conference, held in Chicago from Nov. 1 to Dec. 7, was convened for the purpose of harmonizing the political arrangements involved in air transport with the tremendous technological advances made in the realm of aviation during the war. Before the war, international air transport was for the most part highly restricted, with rights of transit and trade being the subject of bilateral agreements and hard bargaining. Likewise, before the war there were no multilateral agreements or generally accepted standards on such matters as airworthiness of aircraft and competency of pilots. Under wartime conditions, however, such tremendous advances had been made in air transport that it became imperative that air traffic control practices and procedures be standardized at airports all over the world.

Efforts to reach agreements on civil aviation problems were, however, beset with difficulties, for two distinct points of view were represented at the conference. One view, championed by the United Kingdom, Australia, New Zealand, and to a lesser extent by Canada, emphasized the need for controls on international civil aviation, insisting that there would be chaotic competition unless this form of global transportation were centrally directed. The other group, led by the United States, insisted that maximum expansion under a system of free enterprise should prevail and only a minimum of regulations for the purpose of preventing discrimination should be adopted. On this issue the conference remained deadlocked throughout most of its sessions. The compromise that was finally achieved called for the establishment of a central authority with limited powers.

The four major draft agreements and 12 resolutions constituting the results of the Conference were:

1. A convention on International Civil Aviation.—This is a "constitution" for the post-war global air world. It covers the conditions to be fulfilled in connection with flight over territory of contracting states, a wide variety of measures to facilitate air navigation, customs procedures, standard requirements of personnel and equipment, etc. This document represents a step toward the establishment of common air practices throughout the world and represents what Adolf Berle, Jr., a delegate from the United States Department of State, referred to in his closing address at the conference as "the technical freedom of the air."

2. Interim Agreement on International Civil Aviation.—Since several years may elapse before legislative bodies in various nations can formally ratify the permanent agreements, the conference proposed an interim Agreement as well as a temporary Assembly representing all member states and a Council of 21 members to be established as soon as 26 states accept this temporary arrangement. The chief purpose of the interim organization is to foster the development of an international air transport by revising technical provisions of the constitution in accordance with latest technological developments. Although Russia was not represented at the Conference, the United States suggested that a place on the Interim Council should be held open for the Soviet Government in the event it should later adhere to the agreement.

3. International Air Services Transit Agreement.—This provides for measures to facilitate international air transport. For example, Chapter XV authorizes the Council to provide and maintain airports and other air navigation facilities where a member state may not be able to make such facilities available. An effort was made to insert in this agreement provisions for freedom of transit and trade for scheduled international air services. Because of divergent post-war economic aims among members of the conference, however, it proved impossible to achieve such an agreement.

4. International Air Transport Agreement.—This agreement includes miscellaneous provisions for assuring cooperation among member states in the realm of civil aviation. Discriminatory concessions are outlawed, the council is designated as an arbitral body to settle disputes between member states over matters pertaining to civil aviation, and provision is made for the registration with the Council of all existing and future aeronautical agreements.

5. Twelve Resolutions and Recommendations, included in the Final Act. —Among these Resolutions perhaps the most important is No. 8, which provides a Standard Form of Agreement for Provisional Air Routes, the use of which by nations not signing the "five freedoms" document will go far to eliminate discriminatory privileges and assure equality of treatment.

THE DUMBARTON OAKS CONFERENCE

By Sidney B. Fay
Professor, Harvard University

GENERAL

The Proposals of the Dumbarton Oaks Conference, published on Oct. 9, 1944, printed below (pp. 105-112), mark the most important step, since the Paris Peace Conference at 1919, toward the realization of a world organization for peace and security. The

Proposals were at once opened to world-wide discussion and criticism. They deserved and received the most careful attention of all persons who are determined that there shall be no World War III.

The Dumbarton Oaks Conference met under conditions in many respects far more favorable for successful results than the Paris Conference which framed the League of Nations a generation ago. Dumbarton Oaks is a beautiful old manor house in the quiet Georgetown suburbs of Washington, D.C. Some years ago it was given by its owners, Mr. and Mrs. Robert Woods Bliss, to Harvard University. Its valuable library and works of art make it a center for mature scholars. Its peaceful calm, near the Washington Cathedral, is very different from the hectic war-hysterical atmosphere of Paris in 1919.

At Dumbarton Oaks only three great nations—the United States, Great Britain, and the Soviet Union—took part in the negotiations from Aug. 21 to Sept. 27. Their work, after the retirement of the Russians, was again studied by the delegates from only three nations—the United States, Great Britain, and China. The negotiators carried on merely preliminary exchanges of views on one general subject—the formation of a general security organization. Other vast questions had been, or were being, dealt with by other agencies or conferences—the surrender terms for Germany by the European Advisory Commission in London, relief and rehabilitation by UNRRA, monetary stability by the Bretton Woods Conference, food supply by the Food and Agriculture Organization, post-war civil aviation by the Chicago Conference, and the conduct of the war by the various Anglo-American Combined Boards in Washington, by direct negotiations between Foreign Offices, or by personal meetings between President Roosevelt, Prime Minister Churchill, and other heads of state. Dumbarton Oaks could concentrate its whole attention on one single problem. It could take its time, and did take its time—about seven weeks. The Proposals were then laid before all the other United Nations which in due time will be invited to a general conference for the drawing up of the definite charter of the new organization. This deliberate procedure may seem unduly slow, but, in such a weighty matter, it is wise to make haste slowly.

How different was the situation in 1919! The Paris Peace Conference undertook the almost superhuman task of dealing with overwhelmingly numerous and complicated questions—troublesome new boundaries everywhere, recognition of new states, peace terms for all the nations involved in the First World War, reparations, tariffs, river navigation, protection of minorities—and the framing of the League of Nations. The conferees, beset by a great host of claimants clamoring to be heard, had to work with frenzied haste, because all the delegates wanted to finish up the business and get home to their own affairs. It was this multiplicity of problems, and the consequent exhaustion and impatience of the delegates, which partly explains why the proposed new organization bids fair to be more successful than the League of Nations.

Furthermore, the framers of the League of Nations were creating an untried organization practically new in its conception and universal breadth. They had very little in the way of earlier experience upon which to build—very little knowledge of the mistakes of the past which could serve as warnings for the future. Dumbarton Oaks, however, could profit richly by attempting to avoid the mistakes and misfortunes which contributed to the failure of Woodrow Wilson's great vision. Hindsight is valuable.

EVOLUTION OF OPINION

Five years of war have seen an interesting shift of attitude toward the League of Nations. In 1939 many of its former admirers and advocates had already lost faith in it. Its record of failures since the Manchukuo tragedy in 1931 had so discredited it that they no longer wanted to revive it even in modified or improved form. They turned to other proposals for world security.

Some writers looked to a nuclear alliance of the Great Powers who were fighting Fascism, since they alone had the actual military power and economic resources to enforce peace. Others looked to regional organizations as better suited to keep the peace in particular areas than the discredited over-all and universal League of Nations in which tiny nations could block responsible action by the Great Powers. Writers advocated regional groupings such as the Western Hemisphere, western Europe, the Soviet system, eastern Asia, or various other regional combinations. Prime Minister Churchill spoke more than once of the need for a "European Council" to deal with Europe and its troubles.

In course of time, however, it was felt that the nuclear alliance idea paid too little regard to the aspirations of small nations. The regional idea was criticised because two countries separated by oceans are often brought into closer contact by trade interests or rivalry than two countries lying close to one another on the same continent. And what was to be done with the British Empire? It clearly has an important stake in Europe, but has Canada as part of the Western Hemisphere, and also extensive possessions in the East Asian region. Many keen Americans also felt that a system of regional organizations would be undesirable, because the United States might naturally tend to confine its interest to the Western Hemisphere, and thus revive or strengthen an unhealthy isolationism.

More important, statesmen began to feel that regional groupings could not satisfactorily deal with the increasingly urgent world-wide problems. In view of modern science, progress in transportation, economic interdependence, and dependent or colonial areas, the nations of the globe are being brought into ever closer contact and potential conflict with one another. Therefore, only a single, over-all, world organization could effectively deal with global problems. Hence the Four-Power Declaration of Moscow of Oct. 30, 1943 that initiated the Dumbarton Oaks Conference ten months later, recognized "the necessity of establishing at the earliest practicable date a general international organization . . . open to membership of all [peace-loving] States, large and small, for the maintenance of international peace and security."

The Dumbarton Oaks plan thus reflects an interesting evolution of opinion. In many respects it embodies again League of Nations arrangements, but with some notable differences which will be noted below. In the provisions for the Security Council, the plan contains some of the nuclear alliance idea of the predominant power and consequent responsibility accorded to the Great Powers. Finally, the plan recognizes and favors limited regional organizations subordinate to the new general organization.

PERSONNEL OF THE CONFERENCE

The Dumbarton Oaks Conference, in contrast to the commission which framed the League of Nations, comprised, not heads of state or prime ministers, but experts in foreign, military, and naval affairs. It was a conference not so much of idealists (though idealism was not lacking) as of technicians. Delegates concentrated not so much on how to abolish war as on what to do when it threatens to break out. Their preoccupation was less with principles and more with a practicable and quick-working machinery. In place of the Utopian aspirations and lofty Wilsonian language of the Covenant, the language of the new Proposals is more dry, sober and matter-of-fact.

The first Conference comprised 42 delegates—18 American, 14 British, and 12 Russian. Their influence was probably somewhat in proportion to their numbers.

The American delegation was

headed by Edward R. Stettinius, Jr., then Under Secretary of State. He has stood above American partisan politics, and was therefore well fitted to carry out Secretary Cordell Hull's great aim of preventing American foreign policy from becoming a football of the presidential campaign. Mr. Stettinius was also very familiar with international problems from his management of Lend-Lease, and from his trips to England and Russia. He was elected presiding officer of the Conference. He was aided by experienced diplomatists and members of the State Department, like Henry P. Fletcher, Green M. Hackworth, Stanley K. Hornbeck, Breckinridge Long, Leo Pasvolsky, Edwin C. Wilson, Benjamin V. Cohen, James C. Dunn and M. J. McDermott; Generals Stanley D. Embick and Muir S. Fairchild; Admirals Harold C. Train and Russell Willson; Isaiah Bowman, president of Johns Hopkins University, who was active at the Paris Peace Conference; and Joseph C. Grew, U. S. ambassador to Japan in the decade prior to Pearl Harbor.

The British delegation was in charge of Sir Alexander Cadogan. As Permanent Under Secretary of the Foreign Office, he was one of the most important officials in shaping Britain's foreign policy. One of his most vigorous and well-informed colleagues was Professor C. K. Webster, an admirer of the League of Nations idea, who has taught modern history with distinction at Aberwystwith, Harvard, and London universities. Others in the delegation were P. H. Gore-Booth, Gladwyn Jebb, Peter Loxley, Sir William Malkin, A. H. Poynton, Paul Falla, A. R. K. Mackenzie, Col. Capel Dunn, Generals M. F. Grove-White and G. N. Macready, Admiral Sir Percy Noble, and Air Marshal Sir William Welsh.

The Russian delegation was headed by the youthful but very able recently appointed Soviet ambassador to the United States, Andrei A. Gromyko. With him were G. G. Dolbin, A. A. Sobolev, S. K. Zarapkin, M. M. Yunin, V. M. Berezhkov, Professors S. A. Golunsky and S. B. Krylov, General N. V. Slavin, and Admiral K. K. Rodionov.

In the last ten days of the Conference, when the Chinese replaced the Russians, China's views were presented by the chairman of her delegation, Dr. V. K. Wellington Koo, Chinese ambassador to England. He was ably assisted by Wei Tao Ming, ambassador to the United States, and by Dr. H. H. Kung, Vice-President and Finance Minister of China.

The opening formal session of the Conference on Aug. 21 heard optimistic addresses by Secretary Cordell Hull, Sir Alexander Cadogan, and Mr. Gromyko, explaining the aims of the meeting. It was open to the press and a limited public. Photographers were allowed a field day in securing all the pictures they desired. Thereafter the sessions were strictly private. No reporters were allowed within the precincts of Dumbarton Oaks. No official information was given out except by Mr. Stettinius in occasional communiqués issued on behalf of the three delegations.

After the formal opening session, the Conference divided into four subcommittees: on "General Questions of International Organization," which dealt with the general form of the proposed organization; on "Security," which studied the specific question of applying force to prevent and repel aggression; a Drafting Committee; and a Legal Committee.

ASSEMBLY, SECRETARIAT, COURT OF JUSTICE

The new organization recommended by the Dumbarton Oaks Proposals will have five principal organs: General Assembly, Secretariat, Court of International Justice, Security Council, and Economic and Social Council.

The General Assembly is to be composed of representatives of all "peace-loving" states which accept and ratify the charter which is to be drawn up along the lines of the Proposals. The new Assembly, therefore, will at first be somewhat smaller than the League of Nations Assembly which aimed to be universal (except that Germany and Russia were unfortunately excluded for several years) and which included about 60 nations, great and small. The new Assembly will probably include the 34 countries which now make up the United Nations, and some others like Italy, Denmark, Egypt, Ireland, and seven South American nations which have not yet joined the United Nations. New members may be admitted upon recommendation of the Security Council by two-thirds affirmative vote of the Assembly.

Each member state will have one vote in the General Assembly, thus recognizing the sovereign equality of all states whether great or small. The unfortunate requirement of unanimity in voting in the League of Nations is wisely abandoned. Voting in the new Assembly will require only a two-thirds vote of those present and voting on important matters, such as: recommendations for peace and security; election of the six non-permanent members of the Security Council and the 18 members of the Economic and Social Council; and the admission or expulsion of member states. On all other ordinary matters only a simple majority vote is required.

The functions of the Assembly are mainly: to consider general principles for cooperation and disarmament and make recommendations thereon to the Security Council; to elect members of the Security and Economic Councils, the Permanent Secretary and the judges of the International Court; to apportion expenses among members; and to receive and consider annual and special reports from the various organizations. Its functions are, therefore, chiefly advisory and elective, and much narrower in scope than those of the League of Nations Assembly.

The Permanent Secretariat, with a Secretary-General and such staff as he may require, is similar to the League Secretariat which functioned well. The Secretary-General is to attend all meetings of the Assembly and the two Councils and to make annual reports to the Assembly upon the work of the United Nations organization.

The Court of International Justice is to function in accordance with a statute to be attached to the charter. It will probably resemble closely the very satisfactory Permanent Court of International Justice established in connection with the League of Nations.

SECURITY COUNCIL

The Security Council is the most important organ of the new organization. It is to be composed of 11 members, *viz.*, five permanent members (the "Big Five"—United States, Britain, Soviet Union, China, and France), and six non-permanent members each elected for two years and not immediately re-eligible. Its purpose is primarily to ensure prompt and effective action for maintaining peace and security at all times. It is, therefore, to function continuously, and each of the 11 states is to be permanently represented at its headquarters.

In case of disputes between states, the Security Council will first seek a pacific settlement by investigating the dispute, hearing complaints from member or non-member states, and by then recommending settlement by negotiation, mediation, conciliation, arbitration, judicial decision, or other peaceful means. If the parties to the dispute fail to reach a settlement, they are obligated to refer the dispute to the Security Council which will recommend appropriate methods of settlement, but if no settlement is thus reached, and the Security Council thinks there is a threat to peace, it can call upon United Nations members to use such measures of compulsion as severance of rail, air, postal, radio and other means of communication, or the breaking off of diplomatic and economic relations.

Then come the provisions which contain real "teeth." If all the foregoing measures prove inadequate, the Security Council is empowered to use land, naval, and air forces to maintain or restore peace and security. These forces are to be supplied from the national forces of the member states in an amount and character that will be determined by later special agreements. In order, however, to enable the Security Council to take urgent military measures instantly, it will always have immediately available national air-force contingents. This is a compromise with the Russian proposal for an international air police force, made up of individual volunteers, and separate from the national forces of the different countries. The compromise, however, is almost as effective as the Russian proposal, because in these days national air forces, strategically situated and always maintained, can go into action within a few hours. This remedies one of the great weaknesses of the League of Nations, which had no such powerful air forces immediately at its disposal.

To aid the Security Council, a Military Staff Committee will advise on the employment and command of the military forces and will deal with questions of strategy. It will be composed of the Chiefs of Staff of the "Big Five" Powers, and will thus coordinate the main military forces of the world.

The question of voting in the Security Council was postponed for further consideration. There seemed to be agreement that in voting for enforcement measures there must be a unanimous affirmative vote of the "Big Five" and also an affirmative simple majority of the whole 11 members. Thus, any one of the "Big Five" could exercise a veto on the use of force; but the non-permanent smaller powers could only exercise a veto if all six voted the same way. All except Russia also seemed agreed that if one of the "Big Five" should be involved in a dispute and enforcement against it proposed, the vote of the Big Power involved would not be counted. Russia, however, objected. She feared that in some dispute, *e.g.* concerning her western frontiers, and that the capitalist nations might use the new organization against her. To prevent this she insisted that she have a veto by having her vote counted even though she was involved in the dispute.

ECONOMIC AND SOCIAL COUNCIL

The Economic and Social Council is an interesting innovation which had no equivalent counterpart in the old League of Nations set-up. Composed of the representatives of 18 states, it will take some of the burden from the Assembly and free the Security Council for its main task of maintaining peace and security. Under the authority of the General Assembly, it will consider problems and frictions in the economic and social field, facilitate their solution, and thus remove or alleviate some of the potent causes of modern wars.

Other existing international United Nations organizations, like UNRRA, Food and Agriculture, etc. are to continue to function under their own statutes, but are to be coordinated with the Economic and Social Council. Though not mentioned in the Dumbarton Oaks Proposals, some of the surviving League of Nations affiliated organizations—the International Labor Office, the Health Section, Anti-Drug Commission, etc.—will probably be coordinated also under the Economic and Social Council.

The middle-sized and small nations feel that they will be under-represented in the Security Council with only six rotating seats, but in the Economic and Social Council, with 18 seats, they will be much more fully represented. They will also be on terms of absolute equality with the "Big Five," because each member of the Economic and Social Council will have one vote, and decisions will be by simply majority vote.

UNDECIDED QUESTIONS

Many questions, besides the method of voting in the Security Council, remain to be decided. Where shall the headquarters be? Washington might seem suitable, as it is already the headquarters of most of the United Nations organizations, and the United States is the most powerful country (with the possible exception of the Soviet Union), but Washington is over-crowded and far away from Europe and eastern Asia. At Geneva the magnificent but empty League of Nations Peace Palace would afford excellent quarters.

What is to become of the League of Nations that still legally exists with about 40 members still paying their dues and with many of its agencies still functioning fairly actively? Probably the League will have to have a meeting, vote to dissolve, and hand over most of its activities to the new United Nations organization.

For the United States there are delicate domestic constitutional questions. Probably the charter will be regarded as a treaty requiring for ratification a two-thirds vote of the Senate, rather than as an "executive agreement" which might be adopted by a simple majority vote of both houses of Congress. Remembering the Senate failure to ratify the League of Nations Covenant which was unfortunately embedded in the peace treaty with Germany, some persons want to see the Constitution amended so that henceforth treaties could be ratified by a simple majority vote of both houses of Congress, but it might take a couple of years to secure such a constitutional amendment. It is to be hoped, therefore, that the charter can be ratified as a treaty by a two-thirds vote of the Senate. After that, Congress by majority vote could determine by statute the delicate question of the power to be exercised by the United States member who will have a permanent seat on the Security Council.

The Dumbarton Oaks Proposals have received pretty general commendation both in the United States and abroad. They mark an excellent start. They do not satisfy everybody on one point or another, but, as Sumner Welles has pointed out, it would be a great mistake to oppose it because it is not perfect in every respect.

PROPOSALS FOR THE ESTABLISHMENT OF A GENERAL INTERNATIONAL ORGANIZATION

There should be established an international organization under the title of the United Nations, the charter of which should contain provisions necessary to give effect to the proposals which follow.

CHAPTER I

PURPOSES

The purposes of the organization should be:

1. To maintain international peace and security, and to that end to take effective collective measures for the prevention and removal of threats to the peace and the suppression of acts of aggression or other breaches of the peace and to bring about by peaceful means adjustment or settlement of international disputes which may lead to a breach of the peace;

2. To develop friendly relations among nations and to take other appropriate measures to strengthen universal peace;

3. To achieve international cooperation in the solution of international economic, social and other humanitarian problems; and

4. To afford a center for harmonizing the actions of nations in the achievement of these common ends.

CHAPTER II

PRINCIPLES

In pursuit of the purposes mentioned in Chapter I the organization and its members should act in accordance with the following principles:

1. The organization is based on the principle of the sovereign equality of all peace-loving states.

2. All members of the organization undertake, in order to insure to all of them the rights and benefits resulting from membership in the organization, to fulfill the obligations assumed by them in accordance with the charter.

3. All members of the organization shall settle their disputes by peaceful means in such a manner that international peace and security are not endangered.

4. All members of the organization shall refrain in their international relations from the threat or use of force in any manner inconsistent with the purposes of the organization.

5. All members of the organization shall give every assistance to the organization in any action undertaken by it in accordance with the provisions of the Charter.

6. All members of the organization shall refrain from giving assistance to any state against which preventive or enforcement action is being undertaken by the organization.

The organization should insure that states not members of the organization act in accordance with these principles so far as may be necessary for the maintenance of international peace and security.

CHAPTER III

MEMBERSHIP

1. Membership of the organization should be open to all peace-loving states.

CHAPTER IV

PRINCIPLE ORGANS

1. The organization should have as its principal organs:

A. A General Assembly;

B. A Security Council;

C. An International Court of Justice; and

D. A Secretariat.

2. The organization should have such subsidiary agencies as may be found necessary.

CHAPTER V

THE GENERAL ASSEMBLY

Section A—Composition

All members of the organization should be members of the General Assembly and should have a number of representatives to be specified in the charter.

Section B—Functions and Powers

1. The General Assembly should have the right to consider the general principles of cooperation in the maintenance of international peace and security, including the principles governing disarmament and the regulation of armaments; to discuss any questions relating to the maintenance of international peace and security brought before it by any member or members of the organization or by the Security Council; and to make recommendations with regard to any such principles or questions. Any such questions on which action is necessary should be referred to the Security Council by the General Assembly either before or after discussion. The General Assembly should not on its own initiative make recommendations on any matter relating to the maintenance of international peace and security which is being dealt with by the Security Council.

2. The General Assembly should be empowered to admit new members to the organization upon recommendation of the Security Council.

3. The General Assembly should, upon recommendation of the Security Council, be empowered to suspend from the exercise of any rights or privileges of membership any member of the organization against which preventive or enforcement action shall have been taken by the Security Council. The exercise of the rights and privileges thus suspended may be restored by decision of the Security Council. The General Assembly should be empowered, upon recommendation of the Security Council, to expel from the organization any member of the organization which persistently violates the principles contained in the Charter.

4. The General Assembly should elect the non-permanent members of the Security Council and the members of the Economic and Social Council provided for in Chapter IX. It should be empowered to elect, upon recommendation of the Security Council, the secretary-general of the organization. It should perform such functions in relation to the election of

the judges of the International Court of Justice as may be conferred upon it by the statute of the court.

5. The General Assembly should apportion the expenses among the members of the organization and should be empowered to approve the budgets of the organization.

6. The General Assembly should initiate studies and make recommendations for the purpose of promoting international cooperation in political, economic and social fields and of adjusting situations likely to impair the general welfare.

7. The General Assembly should make recommendations for the coordination of the policies of international economic, social and other specialized agencies brought into relation with the organization in accordance with agreements between such agencies and the organization.

8. The General Assembly should receive and consider annual and special reports from the Security Council and reports from other bodies of the organization.

Section C—Voting

1. Each member of the organization should have one vote in the General Assembly.

2. Important decisions of the General Assembly, including recommendations with respect to the maintenance of international peace and security; election of members of the Security Council; election of members of the Economic and Social Council; admission of members, suspension of the exercise of the rights and privileges of members, and expulsion of members; and budgetary questions should be made by a two-thirds majority of those present and voting. On other questions, including the determination of additional categories of questions to be decided by a two-thirds majority, the decisions of the General Assembly should be made by a simple majority vote.

Section D—Procedure

1. The General Assembly should meet in regular annual sessions and in such special sessions as occasion may require.

2. The General Assembly should adopt its own rules of procedure and elect its president for each session.

3. The General Assembly should be empowered to set up such bodies and agencies as it may deem necessary for the performance of its functions.

CHAPTER VI

THE SECURITY COUNCIL

Section A—Composition

The Security Council should consist of one representative of each of eleven members of the organization. Representatives of the United States of America, the United Kingdom of Great Britain and Northern Ireland, the Union of Soviet Socialist Republics, the Republic of China and, in due course, France, should have permanent seats. The General Assembly should elect six States to fill the non-permanent seats. These six States should be elected for a term of two years, three retiring each year. They should not be immediately eligible for re-election. In the first election of the non-permanent members three should be chosen by the General Assembly for one-year terms and three for two-year terms.

Section B—Principal Functions and Powers

1. In order to ensure prompt and effective action by the organization, members of the organization should by the Charter confer on the Security Council primary responsibility for the maintenance of international peace and security and should agree that in carrying out these duties under this responsibility it should act on their behalf.

2. In discharging these duties the Security Council should act in accordance with the purposes and principles of the organization.

3. The specific powers conferred on the Security Council in order to carry out these duties are laid down in Chapter VIII.

4. All members of the organization should obligate themselves to accept the decisions of the Security Council and to carry them out in accordance with the provisions of the Charter.

5. In order to promote the establishment and maintenance of international peace and security with the least diversion of the world's human and economic resources for armaments, the Security Council, with the assistance of the military staff committee referred to in Chapter VIII, Section B, Paragraph 9, should have the responsibility for formulating plans for the establishment of a system of regulation of armaments for submission to the members of the organization.

Section C—Voting

Note: The question of voting procedure in the Security Council is still under consideration.

Section D—Procedure

1. The Security Council should be so organized as to be able to function continuously and each State member of the Security Council should be permanently represented at the headquarters of the organization. It may hold meetings at such other places as in its judgment may best facilitate its work. There should be periodic meetings at which each State member of the Security Council could if it so desired be represented by a member of the government or some other special representative.

2. The Security Council should be empowered to set up such bodies or agencies as it may deem necessary for the performance of its functions including regional subcommittees of the military staff committee.

3. The Security Council should adopt its own rules of procedure, including the method of selecting its president.

4. Any member of the organization should participate in the discussion of any question brought before the Security Council whenever the Security Council considers that the interests of that member of the organization are specially affected.

5. Any member of the organization not having a seat on the Security Council and any State not a member of the organization, if it is a party to a dispute under consideration by the Security Council, should be invited to participate in the discussion relating to the dispute.

CHAPTER VII

AN INTERNATIONAL COURT OF JUSTICE

1. There should be an International Court of Justice which should constitute the principal judicial organ of the organization.

2. The Court should be constituted and should function in accordance with a statute which should be annexed to and be a part of the charter of the organization.

3. The statute of the Court of International Justice should be either (a) the statute of the Permanent Court of International Justice, continued in force with such modifications as may be desirable or (b) a new statute in the preparation of which the statute of the Permanent Court of International Justice should be used as a basis.

4. All members of the organization should ipso facto be parties to the statute of the International Court of Justice.

5. Conditions under which States not members of the organization may become parties to the statute of the International Court of Justice should be determined in each case by the General Assembly upon recommendation of the Security Council.

CHAPTER VIII

ARRANGEMENTS FOR THE MAINTENANCE OF INTERNATIONAL PEACE AND SECURITY, INCLUDING PREVENTION AND SUPPRESSION OF AGGRESSION

Section A—Pacific Settlement of Disputes

1. The Security Council should be empowered to investigate any dispute or any situation which may lead to in-

ternational friction or give rise to a dispute in order to determine whether its continuance is likely to endanger the maintenance of international peace and security.

2. Any State, whether member of the organization or not, may bring any such dispute or situation to the attention of the General Assembly or of the Security Council.

3. The parties to any dispute the continuance of which is likely to endanger the maintenance of international peace and security should obligate themselves, first of all, to seek a solution by negotiation, mediation, conciliation, arbitration or judicial settlement or other peaceful means of their own choice. The Security Council should call upon the parties to settle their dispute by such means.

4. If, nevertheless, parties to a dispute of the nature referred to in Paragraph 3 above fail to settle it by the means indicated in that paragraph they should obligate themselves to refer it to the Security Council. The Security Council should, in each case, decide whether or not the continuance of the particular dispute is in fact likely to endanger the maintenance of international peace and security and, accordingly, whether it should take action under Paragraph 5.

5. The Security Council should be empowered, at any stage of a dispute of the nature referred to in Paragraph 3 above, to recommend appropriate procedures or methods of adjustment.

6. Justiciable disputes should normally be referred to the International Court of Justice. The Security Council should be empowered to refer to the Court, for advice, legal questions connected with other disputes.

7. The provisions of Paragraph 1 to 6 or Section A should not apply to situations or disputes arising out of matters which by international law are solely within the domestic jurisdiction of the State concerned.

Section B—Determination of Threats to the Peace or Acts of Aggression and Action With Respect Thereto

1. Should the Security Council deem that a failure to settle a dispute in accordance with procedures indicated in Paragraph 3 of Section A, or in accordance with its recommendations made under Paragraph 5 of Section A, constitutes a threat to the maintenance of international peace and security, it should take any measures necessary for the maintenance of international peace and security in accordance with the purposes and principles of the organization.

2. In general the Security Council should determine the existence of any threat to the peace, breach of the peace or act of aggression and should make recommendations or decide upon the measures to be taken to maintain or restore peace and security.

3. The Security Council should be empowered to determine what diplomatic, economic, or other measures not involving the use of armed force should be employed to give effect to its decisions, and to call upon members of the organization to apply such measures. Such measures may include complete or partial interruption of rail, sea, air, postal, telegraphic, radio and other means of communication and the severance of diplomatic and economic relations.

4. Should the Security Council consider such measures to be inadequate, it should be empowered to take such action by air, naval or land forces as may be necessary to maintain or restore international peace and security. Such action may include demonstrations, blockade and other operations by air, sea or land forces of members of the organization.

5. In order that all members of the organization should contribute to the maintenance of international peace and security, they should undertake to make available to the Security Council, on its call and in accordance with a special agreement or agreements concluded among themselves, armed forces, facilities and assistance necessary for the purpose of maintaining international peace and security. Such agreement or agreements should govern the numbers and types of

forces and the nature of the facilities and assistance to be provided. The special agreement or agreements should be negotiated as soon as possible and should in each case be subject to approval by the Security Council and to ratification by the signatory States in accordance with their constitutional processes.

6. In order to enable urgent military measures to be taken by the organization there should be held immediately available by the members of the organization national air force contingents for combined international enforcement action. The strength and degree of readiness of these contingents and plans for their combined action should be determined by the Security Council with the assistance of the Military Staff Committee within the limits laid down in the special agreement or agreements referred to in Paragraph 5 above.

7. The action required to carry out the decisions of the Security Council for the maintenance of international peace and security should be taken by all the members of the organization in cooperation or by some of them as the Security Council may determine. This undertaking should be carried out by the members of the organization by their own action and through action of the appropriate specialized organizations and agencies of which they are members.

8. Plans for the application of armed force should be made by the Security Council with the assistance of the Military Staff Committee referred to in Paragraph 9 below.

9. There should be established a Military Staff Committee the functions of which should be to advise and assist the Security Council on all questions relating to the Security Council's military requirements for the maintenance of international peace and security, to the employment and command of forces placed at its disposal, to the regulation of armaments, and to possible disarmament. It should be responsible under the Security Council for the strategic direction of any armed forces placed at the disposal of the Security Council. The committee should be composed of the Chiefs of Staff of the permanent members of the Security Council or their representatives. Any member of the organization not permanently represented on the committee should be invited by the committee to be associated with it when the efficient discharge of the committee's responsibilities requires that such a State should participate in its work. Questions of command of forces should be worked out subsequently.

10. The members of the organization should join in affording mutual assistance in carrying out the measures decided upon by the Security Council.

11. Any State, whether a member of the organization or not, which finds itself confronted with special economic problems arising from the carrying out of measures which have been decided upon by the Security Council should have the right to consult the Security Council in regard to a solution of those problems.

Section C—Regional Arrangements

1. Nothing in the Chapter should preclude this existence of regional arrangements or agencies for dealing with such matters relating to the maintenance of international peace and security as are appropriate for regional action, provided such arrangements or agencies and their activities are consistent with the purposes and principles of the organization. The Security Council should encourage settlement of local disputes through such regional arrangements or by such regional agencies, either on the initiative of the States concerned or by reference from the Security Council.

2. The Security Council should, where appropriate, utilize such arrangements or agencies for enforcement action under its authority, but no enforcement action should be taken under regional arrangements or by regional agencies without the authorization of the Security Council.

3. The Security Council should at

all times be kept fully informed of activities undertaken or in contemplation under regional arrangements or by regional agencies for the maintenance of international peace and security.

CHAPTER IX

ARRANGEMENTS FOR INTERNATIONAL ECONOMIC AND SOCIAL COOPERATION

Section A—Purpose and Relationships

1. With a view to the creation of conditions of stability and well-being which are necessary for peaceful and friendly relations among nations, the organization should facilitate solutions of international economic, social and other humanitarian problems and promote respect for human rights and fundamental freedoms. Responsibility for the discharge of this function should be vested in the General Assembly and, under the authority of the General Assembly, in an Economic and Social Council.

2. The various specialized economic, social and other organizations and agencies would have responsibilities in their respective fields as defined in their statutes. Each such organization or agency should be brought into relationship with the organization on terms to be determined by agreement between the Economic and Social Council and the appropriate authorities of the specialized organization or agency, subject to approval by the General Assembly.

Section B—Composition and Voting

The Economic and Social Council should consist of representatives of eighteen members of the organization. The States to be represented for this purpose should be elected by the General Assembly for terms of three years. Each such State should have one representative, who should have one vote. Decisions of the Economic and Social Council should be taken by simple majority vote of those present and voting.

Section C—Functions and Powers of the Economic and Social Council

1. The Economic and Social Council should be empowered:

a. To carry out, within the scope of its functions, recommendations of the General Assembly;

b. To make recommendations, on its own initiative, with respect to international economic, social and other humanitarian matters;

c. To receive and consider reports from the economic, social and other organizations or agencies brought into relationship with the organization, and to coordinate their activities through consultations with, and recommendations to, such organizations or agencies;

d. To examine the administrative budgets of such specialized organizations or agencies with a view to making recommendations to the organizations or agencies concerned;

e. To enable the Secretary-General to provide information to the Security Council;

f. To assist the Security Council upon its request; and

g. To perform such other functions within the general scope of its competence as may be assigned to it by the General Assembly.

Section D—Organization and Procedure

1. The Economic and Social Council should set up an economic commission, a social commission, and such other commissions as may be required. These commissions should consist of experts. There should be a permanent staff which should constitute a part of the secretariat of the organization.

2. The Economic and Social Council should make suitable arrangements for representatives of the specialized organizations or agencies to participate without vote in its deliberations and in those of the commissions established by it.

3. The Economic and Social Council should adopt its own rules of procedure and the method of selecting its president.

CHAPTER X

THE SECRETARIAT

1. There should be a secretariat comprising a secretary-general and such staff as may be required. The secretary-general should be the chief administrative officer of the organization. He should be elected by the General Assembly, on recommendation of the Security Council, for such term and under such conditions as are specified in the Charter.

2. The secretary-general should act in that capacity in all meetings of the General Assembly, of the Security Council, and of the Economic and Social Council and should make an annual report to the General Assembly on the work of the organization.

3. The secretary-general should have the right to bring to the attention of the Security Council any matter which in his opinion may threaten international peace and security.

CHAPTER XI

AMENDMENTS

Amendments should come into force for all members of the organization when they have been adopted by a vote of two-thirds of the members of the General Assembly and ratified in accordance with their respective constitutional process by the members of the organization having permanent membership on the Security Council and by a majority of the other members of the organization.

CHAPTER XII

TRANSITIONAL ARRANGEMENTS

1. Pending the coming into force of the special agreement or agreements referred to in Chapter VIII, Section B, Paragraph 5, and in accordance with the provisions of Paragraph 5 of the four-nation declaration signed at Moscow Oct. 30, 1943, the States parties to that declaration should consult with one another, and as occasion arises with other members of the organization, with a view to such joint action on behalf of the organization as may be necessary for the purpose of maintaining international peace and security.

2. No provision of the Charter should preclude action taken or authorized in relation to enemy States as a result of the present war by the governments having responsibility for such action.

Note: In addition to the question of voting procedure in the Security Council referred to in Chapter VI, several other questions are still under consideration.

THE WAR IN EUROPE

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GENERAL DEVELOPMENTS

During 1944 the Allies succeeded in forcing the Nazis to fight on the defensive in the west, south, and east. To meet this triple threat the Germans devised a plan that called for a different strategy on each of the three fronts. In the west, they tried to stalemate the Allied armies and compel them to reconsider their demand for unconditional surrender; in the east, they attempted to trade space for time, with the intention of turning on the Red Army after coming to terms with Britain and the United States. In the south, the Nazis concentrated on making the Allied advance up the Italian peninsula as slow and costly as possible.

Although the German plan did not succeed in securing a negotiated peace, it did prevent a decision from being reached in 1944, as the Allies had hoped. Allied armies were able, nevertheless, to liberate four countries—France, Belgium, Luxembourg, and Greece—and to knock three Axis nations—Finland, Rumania, and Bulgaria—out of the war. Liberation and conquest, while marking the progress of the war, also brought acute political problems in their wake and raised issues among the Big Three concerning the long-range problem of securing the peace. Toward the end of the year, however, political considerations were eclipsed by military problems as the Germans mounted a surprise offensive on the western front that offered dramatic proof of their determination not to surrender.

THE ITALIAN CAMPAIGN

The Italian campaign during 1944 continued to be a costly struggle that was directed almost as much against geography and weather as against stubborn German opposition. As the year began the Allied Fifth Army, located on the eastern coast below the mouth of the Garigliano, and the Eighth Army, across the peninsula and just north of Ortona, seemed thwarted, but by mid-January the Allies were able to put new pressure behind their drive toward Rome. Allied strategy for the capture of the Italian capital was complicated, however, by the fact that the Allies were determined not only to capture Rome, but to outmaneuver the enemy in such a way as to force him to leave the city intact.

As a step toward speeding up the battle for Rome the Allies, on Jan. 22, made amphibious landings near Anzio, approximately 30 miles southeast of the Eternal City. Although the landings themselves were easily successful and clearly demonstrated Allied air superiority, stiff enemy opposition developed by Jan. 26, and during the following five months the forces near Anzio frequently had to fight for their existence. The situation was particularly serious early in February, when the Germans launched a major offensive (Feb. 4) in an effort to throw the beachhead forces back into the sea. Although the German effort failed, President Roosevelt told his press conference on Feb. 11 that the situation remained very tense.

Meanwhile to the south, the bulk of the Allied forces trying to break through the Nazis' Gustav Line below Rome, found the Germans' strength somewhat diminished as a result of the fighting near Anzio. German determination to hold the Gustav Line was strong, however, and on Jan. 24 Hitler gave an order that the Nazi positions in southern Italy were to be held at all costs, since a complete German success there would have important political repercussions for the Nazis. On Jan. 30, nevertheless, American troops succeeded in piercing the Gustav Line by seizing two heights in the Cassino area.

For more than three months the Americans were unable to follow up their success with a northward drive because the Germans held the key observation point of Monte Cassino, the ancient Mother House of the Benedictine Order. In an effort to dislodge the Nazis from this strategic position, the Allies were obliged to shell the famous Abbey, not, however, without first dropping leaflets warning all Italians to leave the Mount. On Feb. 15 Allied artillery and air power were directed on the monastery. Although the Abbey was reduced to ruins, the Germans succeeded in converting the rubble and the caverns of the hill into a strong fortress.

In another effort to rout the Germans from their vantage point, Allied aircraft made, on March 15, one of the heaviest attacks ever carried out on a single target, dropping some 2,500 tons of bombs in a square mile. Although this bombardment was followed by artillery fire and infantry assaults, it did not succeed in wiping out the Nazi garrison on the Mount, for the Germans were able to secure reinforcements by parachute and through the underground tunnels connecting with the nearby town of Cassino.

Having failed to take Monte Cassino by frontal attack, the Allies were obliged to adopt the alternative of isolating the Abbey Hill by making other breaches in the Gustav Line. This plan finally succeeded during the first part of May, when the Eighth Army, which had succeeded in taking over part of the front without encountering enemy opposition, and the Fifth Army crossed the Rapido and Garigliano rivers and overran a number of positions in the Gustav Line. Thereupon the Germans found their position at Cassino untenable and on the night of May 17 they evacuated the Hill and the town without a fight.

After the Fifth Army broke through the Gustav Line, it rapidly advanced northward, and by May 25 made contact with the Anzio beachhead forces in the Cisterna and Littoria area. In a surprise attack on May 31 American troops struck at the Germans in one of their strongest defensive positions in the Artemisio ridge in the Alban Hills, thus splitting the German defense line south of Rome and forcing the Nazis to by-pass Rome and flee northeastward if they were to keep their forces intact.

On June 4 Fifth Army troops entered the Eternal City, meeting only sporadic resistance, and by evening occupied the heart of the city. On the same day Hitler's headquarters attempted to claim that the Germans had deliberately saved the city from destruction, announcing that they had suggested to Vatican authorities that the belligerents should recognize Rome as an open city. The city escaped destruction, however, not because the Nazis so intended but because General Alexander succeeded in forcing the Germans to flee from a city they could no longer hold.

After the fall of Rome the Germans made a headlong retreat northward, with the Fifth Army pursuing the disorganized German Fourteenth Army without respite. Meanwhile, on the eastern side of the peninsula the Eighth Army made parallel advances. By July 19 Leghorn had fallen to the Fifth, while the Ancona had been captured by the Eighth on the preceding day.

From their positions on the western and eastern Italian coasts the Fifth and Eighth Armies converged on Florence early in August, forcing the main German forces east of Florence to withdraw north of the Arno by Aug. 10. Meanwhile the Nazis had done great damage to the artistic monuments of the city, destroying forever the famous view of the old medieval houses on the Arno and the bridges, with the exception of the Ponte Vecchio, that crossed it. After a brief period, lasting from Aug. 10-20, when Florence remained a no man's land with indiscriminate sniping going on, the Germans withdrew toward the west, yet continued to shell the city for several days thereafter.

After retiring from Florence the Nazis continued their retreat until Sept. 10, when they reached the Gothic Line, extending from Massa, on the west, to Rimini, on the Adriatic. Fall and winter rains thus caught Allied troops still in the mountains on the edge of the Po valley. On Nov. 2 Gen. Sir Harold R. L. G. Alexander declared that the Allies could not reasonably expect to drive the Germans from the Po during the winter of 1944-45, for some American and all French forces in Italy had been withdrawn during the invasion of southern France in June, and the Nazis enjoyed the protection of formidable artificial defenses as well as mighty mountain ranges.

Prime Minister Churchill's statement to Parliament on Sept. 28 that the fighting in Italy had been costly was confirmed by casualty figures for the Italian campaign. From May 11, when the major phase of the battle for Rome began, until the end of October, the Allies reported that they had suffered 116,150 casualties while the Germans had lost 194,000 killed, wounded, and prisoners.

ITALIAN POLITICAL FRONT

The broad objectives of the Allies' Italian policy, as determined in advance of Italy's capitulation in 1943, remained unchanged in 1944. These objectives included the management of Italian affairs in such a way as to speed the war against Germany and to provide the Italian people with the opportunity to establish institutions based on democratic principles. On the methods for putting these principles into effect, however, difficulties and disagreements continued to occur both between the Italians and the Allies and among the Allies themselves. In their efforts to find solutions to Italy's political problems, Italian and Allied authorities were constantly hindered, not only by Italy's peculiar position as a battleground and a former enemy country, but by a dangerous deterioration of economic conditions that increased social unrest.

Late in January the Committee of National Liberation, representing the six leading anti-Fascist parties, secured Allied permission to hold a Congress at Bari, at which Badoglio's resignation and the abdication of King Victor Emmanuel were demanded. At this Congress, the Left-wing parties—Communist, Socialist, and Action—were prepared to call for the end of the monarchy as well as the King's abdication, but the other three parties were not willing to go that far. In the interests of unity, therefore, the question of the monarchy as an institution was left for future settlement.

As a result of the anti-fascist parties' refusal to cooperate with Badoglio and the King, the British and American occupying forces found themselves deadlocked in their efforts to secure cooperation for the Italian régime they supported. This impasse was resolved by Moscow's dramatic intervention on March 13, when the Soviet Union announced its recognition of the Badoglio government and the King. Stalin's decision to support leaders formerly associated with Italian Fascism apparently stemmed in part from his desire to prevail upon the Italians to pool their efforts against the Nazis, and, in part, from a previous agreement that Britain's lead should be followed in this Mediterranean country.

As an immediate consequence of Russia's action, the Italian Communist Party, under the leadership of Palmiro Togliatti, who had been in exile in Russia during the past eighteen years, cast its strength on the side of collaboration with Badoglio and the King. Under these circumstances, the other Liberation Parties were also obliged to cooperate with the Badoglio Cabinet, but they continued to insist that King Victor Emmanuel abdicate. Although the King refused this demand, he announced on April 12 that he would retire from power in favor of Prince Umberto, who would assume the title of Lieutenant General of the Realm, as soon as Rome fell to the Allies. When Rome was captured, on June 4, the King accordingly retired, and Premier Badoglio also resigned.

The new Italian government, created on June 9, under the leadership of Ivanoe Bonomi, a distinguished former Socialist of reformist persuasion, was free of all taint of Fascism, and within the limited scope of authority permitted it under prevailing military conditions, this cabinet made an honest effort to deal with the nation's critical conditions. Its tasks were extremely difficult. As the government in power, it shared the blame for the inflation, starvation, unemployment, and other grave national misfortunes that beset the country, but it had very little power to cope with these problems. Its freedom of action was limited largely to the purging of Fascists, and even in this connection it suffered severe criticism from the Left because its systematic legal preparations slowed down the speed of the purge. The government's lack of power also sharpened political cleavages since it appeared that no party that came to power would actually have its policies tested.

To strengthen the Bonomi régime the British and American governments took several important steps. The second session of the Council of UNRRA at Montreal (Sept. 15-26) was encouraged to extend relief to Italy in the form of a $50,000,000 grant for displaced persons and for health measures. On Sept. 26 President Roosevelt and Prime Minister Churchill reviewed the Italian situation, in the light of the latter's recent visit to Italy (Aug. 11-22). The two leaders issued a joint declaration at Hyde Park affirming their intention to extend greater authority to the Italian Government, to alter the nature of Allied control, and to allow partial resumption of trade with Italy. Shortly thereafter (Oct. 4) President Roosevelt also promised larger relief shipments from the United States to Italy, and on Oct. 23 Britain and the United States extended official recognition to the Italian Government.

The question of the amount of independence actually enjoyed by the Italian Government was raised during a cabinet crisis that occurred during November and December. The parties of the Left demanded the formation of a new cabinet in which Count Carlo Sforza, the chairman of the National Liberation Parties and an avowed republican, should be Premier or Foreign Minister. This demand failed, for on November 28 Sir Noel Charles, Britain's Ambassador to Rome, declared that his government could have no confidence in a cabinet including Count Sforza. The alleged British objection to Count Sforza was that he was "unreliable," having failed to keep a promise—made prior to his return to Italy from a long period of anti-fascist exile in the United States —not to raise the monarchical question. Under these circumstances the efforts of the Left to form a new government collapsed, and another cabinet including all the anti-fascist parties except the Socialist and Action was formed under Premier Bonomi.

The British failed to secure American support for their policy. On Dec. 5 Secretary of State Stettinius declared that the United States had not associated itself with the British veto of Count Sforza and would not intervene in Italian political affairs. Meanwhile the Kremlin appeared to remain aloof from the crisis, Ambassador Kostylev having left Rome as the cabinet crisis began.

Allied relations with the Italian partisans in Nazi-controlled northern sections of Italy remained considerably less than satisfactory during 1944, and toward the close of the year they underwent further deterioration when General Alexander was obliged to inform these forces that they would have to live on their own resources during the winter. The stalemate on the Fifth and Eighth Army fronts thus constituted another disaster for Italy, not only because it gave the Germans additional time to loot Italy's remaining industrial resources in the north, but because it spelled the destruction of some of Italy's strongest anti-fascist elements.

THE BATTLE OF FRANCE

The Allied landings in Normandy on D-Day (June 6) and the swift campaign across northern France and Belgium that followed ushered in a new military and political phase of the war against Germany.

The Allies' successful invasion of western Europe had its antecedents in months of careful planning under the skilled leadership of General Dwight D. Eisenhower, who succeeded in molding the cumbersome SHEAF (Supreme Headquarters Allied Expeditionary Forces) into an efficient mechanism for Anglo-American cooperation. The Allies also owned their success to experience gained in previous landings in Mediterranean and Pacific areas and to the large quantities of technical equipment that had been perfected since 1942, when Prime Minister Churchill had felt that plans for crossing the Channel were premature.

For more than a year before D-Day, steady streams of men and material were poured into Britain from the United States, the British Empire and the Commonwealth. As additional preparatory measures, the Allies fought great battles on the sea and in the air in an effort to destroy the strength of the Luftwaffe and the U-boat fleet. By summer the submarine menace in the north Atlantic had become negligible, and pre-invasion bombings scored notable successes against the German aircraft industry and the Nazis' land communications to Normandy. In the weeks immediately preceding D-Day Allied planes rendered additional service to the invading forces by bombing several areas along the northwestern French coast, thus masking the locale of the forthcoming invasion and making it unnecessary for the Allies to waste any part of their strength on diversionary assaults.

In their original landings by sea and air on the Normandy coast between the Isles St. Marcouf and the Orne River the Allies achieved tactical surprise. Despite extremely heavy gales, therefore, the early stages of the invasion were far easier and Allied casualties lighter than had been anticipated. By D-Day-plus-21, the Allies had taken the Cherbourg peninsula and the great port itself, landed 1,000,000 men, and secured a solid base from which to conduct a large-scale offensive against the Nazis.

BATTLES OF GERMANY AND THE LOW COUNTRIES

The next phase of the Battle of France, fought in the hedgerows of Normandy, was virtually positional warfare in which casualties were heavy and progress slow. The fact that the American First Army was unable, under these conditions, to break into Brittany by the end of June, added to the difficulties of supply, resulted in a major change in Allied plans. Whereas a second landing on the southern part of the Breton peninsula had originally been scheduled, all available forces were concentrated in Normandy instead. As a result of this change in strategy the Americans began to break through west of St. Lô on July 25, and by Aug. 1 had advanced into Brittany, quickly capturing the entire peninsula with the exception of a number of ports, where German garrisons continued to hold out during the remaining months of the year.

After the campaign in Brittany American armor turned inland and proceeded north toward Alençon, while the British and Canadians near Caen moved south in a coordinated attempt to encircle the German Seventh Army. By Aug. 13 the Allies had created a trap for the Nazis near Falaise, but although General Eisenhower called on the Allied troops to make a supreme effort to trap the Germans in the Falaise pocket, the Nazis succeeded in extracting most of their armor and a large number of their men.

Escaping units of the German Seventh Army rapidly moved across the Seine, where they joined the Fifteenth Army, and continued to withdraw toward the east. With the main German forces in France thus forced to bypass Paris, the French Forces of the Interior took advantage of their opportunity to destroy the Nazi garrison in the city. German opposition threatened to become stronger than the partisan forces could cope with, however, and the FFI (Fighting French of the Interior) were obliged to send a call for immediate aid to the Allied armies. Gen. Omar N. Bradley, head of the Twelfth Army Group, quickly responded by dispatching General Leclerc's French Armored Division and some American forces to Paris, and the city was formally liberated on Aug. 25.

By the beginning of September the Allies entered Belgium, liberating Brussels on Sept. 2 and Lille and Louvain shortly thereafter. Meanwhile the Germans continued to withdraw toward the Siegfried Line, which included not only artificial barriers and firepower but the natural defenses of the Reich's westernmost mountains, rivers, and cities. After, therefore, the American First Army had crossed the German frontier east of Eupen (Sept. 12) and an armored division had driven into Germany north of Trier, the war in the west again became one of position. Although the Germans were obliged to yield Aachen on October 20, they succeeded in holding their other major defensive positions in the Westwall.

On Sept. 17 Gen. Lewis H. Bereton's airborne army, consisting of American, British and Polish troops, began the greatest operation of its kind ever carried out in a daring attempt to outflank the Westwall at the flat delta in Holland where the Rhine turns westward from Germany. Although these paratroopers succeeded in spanning three of the four water lines that barred the British Second Army's northward advance, they were unable to drive the Germans from the Lek, or

Lower Rhine, west of Arnhem. On Sept. 25-26 the Allies were obliged to evacuate their airborne forces in this area with heavy losses.

OTHER WEST FRONT PHASES

Meanwhile, on Aug. 15, the American Seventh and the French First Armies, and a few British forces, had landed at several points on the French Mediterranean coast between Toulon and Nice. These troops made such rapid progress up the Rhone Valley that they were able to make a junction with General Patton's Third American Army, which had crossed northern France during the latter part of the summer, on Sept. 15 near Dijon.

Toward the close of the year the six Allied armies in the west (the Twenty-First Group of British, Canadian and other Allied forces; the American Ninth, First, Third and Seventh Armies; and the French First Army) concentrated on building up supplies for their forthcoming attacks on the industrial Ruhr and Saar regions. On Dec. 16 Marshal von Rundstedt attempted to upset these preparations by throwing 20 or more divisions—many of them armored and supplied with new rocket and robot weapons—against the thinly-held American First Army front along the Belgian and Luxembourg frontiers. For seven days thereafter the Germans rolled almost unchecked across Belgium and came within four miles of the Meuse River. By Dec. 28, however, the Nazi offensive had been halted, but the results of the Nazi drive remained to be assessed.

POLITICAL RESULTS OF INVASION OF EUROPE

On the diplomatic front the western Allies' invasion of Europe promised to have tremendous long-range as well as immediate effects. As Prime Minister Churchill suggested to Parliament, on Aug. 2, the fact that the continent had been invaded from Britain meant that the technical problems involved in invading the United Kingdom from Europe had also been solved. Voicing the hope that this point would not be overlooked by those responsible for the nation's future security, the Prime Minister hinted that Britain should henceforth consider itself a part of the European mainland for the sake of its own safety. For the United States the implications of the invasion were not as clear as for Britain, but thoughtful American observers noted that the development of landing equipment and artificial harbors had helped shrink the oceans as well as the Channel.

FRANCE LIBERATED

Liberation of the western European nations, one of the main results of the Allied invasion, entailed for these countries a difficult period of transition from German occupation to re-established independence. In France this transition seemed to be effected smoothly, despite the fact that political differences under the Third Republic had been particularly marked.

One factor explaining this paradox was the prestige of Gen. Charles A. J. M. de Gaulle. As the man who had refused to accept military disaster in 1940, he and his Provisional Government, which had grown up during the war and remained free from all taint of defeat, were able to raise widespread enthusiasm among liberated Frenchmen. Moreover, the French, regardless of their diverse political views, found common ground in their desire for revived national strength, and they felt satisfied with General de Gaulle's efforts to achieve this objective.

On D-Day, however, the success of de Gaulle's new régime was by no means assured. At the moment when Allied forces began their landings on the French coast, Britain and the United States had made no arrangements for using de Gaulle's representatives to administer liberated French territory. Insisting that they could not be certain that the French "Provisional Government," which the Committee of National Liberation in Algiers had established on June 2, enjoyed the support of the majority of the French people, the British and

Americans withheld recognition of de Gaulle's régime. Secretary of State Hull and Foreign Secretary Eden did assure de Gaulle, however, that no Allied Military Government would be established in France and that Vichyites would not be called upon to administer the country.

De Gaulle's failure to secure an Anglo-American pledge that his own representatives would be exclusively used in administering France, did not prevent him from going to France shortly after D-Day and personally installing his own officials in the liberated areas. Once this action had been taken and had received at least tacit approval from the local communities, General Eisenhower recognized the existing situation and henceforth dealt with de Gaulle's representatives as the *de facto* authority. Formal recognition of the "Provisional Government" by the United States, Britain, and Russia was not extended, however, until Oct. 23, the day after the Allied command handed over to the French the entire administration of central France and Paris.

Meanwhile de Gaulle had modified his cabinet (Sept. 12) to keep it in harmony with political trends in France, and revised the membership of the National Assembly—consisting of representatives of Fighting Frenchmen recently returned from exile, resistance leaders, and former Deputies and Senators—prior to its assembly in Paris on Nov. 7.

Among the most pressing problems confronting France as it emerged from Nazi rule were those of physical reconstruction. Although the French had suffered less actual damage than the British in the course of the war, they found their efforts to secure food and supplies from various parts of the country and abroad thwarted by their wrecked transportation system. Under these circumstances large numbers of Frenchmen became unemployed, and the problem of disbanding the FFI became more difficult since the guerrillas could not be offered jobs as an inducement to return to civilian life. The government, therefore, did not press the issue of disarming the FFI and allowed large numbers of its members to retain their arms.

Economic questions were likewise left without conclusive answers. As a result, both Left and Right accepted measures representing partial socialism, such as the nationalization of mines and the commandeering of certain industries owned by collaborators. In connection with the demand for a purge of Vichyites, which was particularly strong among the Communists, the government also insisted on a moderate course.

In the realm of foreign policy, the first major step the French Government took following its recognition by the Allies was the formation, on Dec. 10, of a 20-year pact with Russia. This alliance represented France's return to its traditional policy, dating from the close of the nineteenth century, of holding Germany in check by means of strong bonds between eastern and western Europe. As a corollary to France's agreement to form part of a new western barrier to German Aggression, the de Gaulle government gave considerable attention to the rebuilding of the French army. These efforts met with only limited success, however, since most of the necessary armaments had to come from the United States, and the western front necessarily had top priority on American war materiel and shipping.

BELGIUM AND THE NETHERLANDS

In Belgium and the Netherlands, members of the resistance movements showed keen dissatisfaction with the partially reconstituted governments that returned to their homelands after four years of exile in London.

Late in November the Belgian coalition government under Premier Hubert Pierlot found itself under attack from resistance groups. The Pierlot cabinet's financial policy constituted one reason for its unpopularity among members of the resistance movement. In an effort to end the Nazi-created inflation and to establish a sound financial basis for post-war trade, the returning government introduced stern deflationary policies. The outcome was different from that anticipated, however, for the immediate shipments of food and raw materials from Britain, on which success of the Belgian authorities' policy depended, were not delivered because of the unexpectedly great demands of the military front. As a result, the refusal of Belgian farmers and other people with goods for sale to market their produce at deflated prices, caused near famine conditions and widespread unrest.

The second important issue between the government and the resistance groups arose when the Pierlot cabinet called for the disarmament of the underground movement, insisting that all armed forces in the state be placed under governmental control. Many resistance leaders refused to surrender their arms lest they lose their influence on governmental policies, and they called for a nationwide strike on Nov. 27 as a protest against the cabinet's order. Thus challenged, the government sought and obtained the armed support of British troops, on the grounds that irregular armed forces could not be permitted behind the Allied lines on the Western Front.

In the Netherlands, Prime Minister Pieter Gerbrandy, who returned to the liberated areas of his homeland late in November for a brief inspection tour, faced the criticism that his government represented Holland's great financial interests rather than the people as a whole. The political issues in Holland were not pressed, however, for with the northern part of the country still in German hands, there was obvious need for wartime unity.

NORWAY AND DENMARK

The liberation of Norway was begun by Red Army troops and a token Norwegian force during November, when the Nazis were driven from naval and air bases in the far north. Since the Germans pursued a scorched-earth policy to impede the Russians, the amount of damage done was so considerable that Premier Johan Nygaardsvold called, on Dec. 26, for an Allied invasion of Norway to halt German destruction of the country.

In Denmark the Germans continued to be unable to force a Nazi régime on the Danes, and the country remained without a government except for a few administrative departments that functioned unconstitutionally in order to secure the continuance of certain vital public services.

AIR AND NAVAL OPERATIONS

During 1944 the Allies succeeded in maintaining their air superiority to such an extent that no United Nations army or navy was turned back from its objective by enemy aircraft nor obliged to operate without almost continuous air support. In addition to giving tactical support to ground forces on the main battle fronts, the American Fifteenth Air Force operating from Italy heavily bombed Rumanian oil fields and cut off the Germans from this important source of motor fuel. Likewise, the RAF and the American Eighth and Ninth Air Forces based on England successfully diminished the Germans' production of aircraft, ballbearings, synthetic fuel, and heavy war equipment as well as the launching sites and supply routes of the Nazis' new robot weapons.

Robot planes and bombs, the "secret weapons" long promised by the Nazis, were first launched against southern England shortly after D-Day and later against Allied ports and troops in Belgium and France. The first of these robot weapons, the V-1 (Vergeltungswaffen No. 1), traveled at a speed of approximately 350-400 m.p.h. and was susceptible to interception by aircraft and anti-aircraft guns. Many of these robots were, therefore, brought down with little resulting damage. However, the V-2, with a top speed of 1,000 to 3,500 m.p.h. and V-1½ (a kind of flying artillery shell) were invulnerable to attack, and Allied airmen were able to counteract them only by destroying their launching sites.

In naval warfare the Germans suffered severe losses to their U-boat fleet. Despite this fact, a Swedish naval publication estimated at the end of the year that the Germans still had 400 submarines in action, or more than any other single country, but with the Allied capture of France and the Low Countries, the Nazis were obliged to depend almost entirely on their more remote submarine base at Bergen, Norway, for their attacks on Allied shipping. In the realm of surface craft the Germans suffered one of their most severe losses on Nov. 12, when the RAF's six ton "earthquake" bombs sank the *Tirpitz,* the only battleship remaining in the German navy, off the Norwegian coast. With the destruction of this floating fortress, the Nazis' efforts to disrupt the Allied supply route to Murmansk, already weakened by the Finns' cession of Petsamo to the U.S.S.R. in September, suffered another defeat.

THE NEUTRALS

General.—During 1944 the pendulum of neutrality swung more sharply toward the Allies in Turkey, Sweden, Spain, Switzerland, and Portugal as these nations adjusted their relationships to the winning side and yielded to Allied pressure to reduce their political and economic connections with Germany. Although only Turkey broke off diplomatic as well as trade relations with Germany (Aug. 2) under these conditions, all except Switzerland agreed to end their exports to Germany.

Sweden.—The Swedish Government took an important step in the direction of the Allies during November, when it permitted Norwegian "police" forces, consisting of Norwegian refugees who had been receiving military training in Sweden, to proceed to Russian-liberated northern Norway. Shortly thereafter the Swedish Government gave additional aid to the Allies by announcing that it would not hold additional trade talks with Germany but would let its current agreement expire on Jan. 1, 1945. This meant that the Allies' long efforts to deprive Germany of Swedish ball bearings and iron ore had achieved complete success.

Spain and Portugal.—The Spanish press continued its antagonistic line toward the Soviet Union, and the Moscow radio and press charged that Franco's government was aiding Nazis to enter Latin America for the purpose of reconstructing fascism there. Despite ideological preference for the Axis, however, the Franco régime found itself obliged, once Spain had been cut off from Germany by a liberated France, to discontinue its shipments of ferro-alloys to the Nazis. On June 12 the Portuguese Government under Dr. Salazar was similarly obliged to reassess its position in relation to the war, and issued an official decree halting the production and export of wolfram. On the Spanish political front, Republican groups, particularly the Supreme Junta of the Spanish National Union in Paris and armed Spanish guerrillas in southern France, seemed, during October and November, to be planning a revolt against General Franco, but the Republicans failed to secure any encouragement from Britain and the United States. Prime Minister Churchill apparently adhered to the "kindly words" he spoke in Parliament in behalf of Franco's government, on May 24, for having declined to join the Axis in 1940, when Britain was in greatest danger of defeat.

EASTERN FRONT: MILITARY AND POLITICAL

In the east the Russians completed the liberation of their own territory and carried the war into Poland, Czecho-Slovakia, Rumania, Bulgaria, Yugoslavia, and Hungary. Throughout the first part of the year Red Army forces were active along the entire front, crossing the pre-1939 Polish border for the first time at Olevsk (Jan. 4) and lifting the 29-month-old-siege of Leningrad (Jan. 20). During the spring, Wehrmacht units in the Baltic area became increasingly isolated and most of them were obliged to withdraw to a line running from East Prussia to the Carpathians in order to protect German soil. This withdrawal had important political repercussions among the various Nazi satellites and led directly to the surrender of Finland, after long armistice negotiations, on Sept. 19.

Shortly after D-Day in the west, the Russians moved across eastern Poland and made a drive on the East Prussian frontier, arriving on German soil for the first time on Aug. 18, at Sandomierz, on the left bank of the Vistula. The Red Army did not follow up these advances with a major campaign, however, and restricted itself to pinning down the Germans in East Prussia and clearing all remaining Nazis from the Baltic areas. Warsaw itself remained in Nazi hands until mid-January, 1945.

Meanwhile Polish underground forces in Warsaw apparently expected the Russians to attack the city, and Warsaw rose against the German garrisons on Aug. 4. The lack of coordination between the Red Army and the guerrillas in the Polish capital, who were supporters of the Polish government-in-exile, had tragic results. After 63 days of fighting against the Nazis the Polish irregulars were obliged to surrender and face drastic punishments.

POLAND

Poland, as the outstanding unsolved problem in Europe, remained an important potential source of inter-Allied conflict. During the first part of 1944, Secretary of State Hull offered to extend the good offices of the United States as a mediator between Russia and the Polish Government in London, but on Jan. 26 Russia declined this suggestion, on the ground that Secretary Hull's failure to mention the Curzon Line indicated that the Poles had rejected it as a basis for negotiation. Thereupon Prime Minister Churchill attempted to bring pressure to bear on the Poles to accept the Russian territorial demands by declaring, on Feb. 22, that he considered the Russian claims just and thought the Curzon Line should be the basis of Polish-Soviet negotiations.

When the Polish Government-in-exile continued to insist on Poland's 1939 boundaries, the Russians sponsored the establishment, on July 30, of a Committee of National Liberation in Lublin, as the body with which it would deal in connection with Polish affairs. Prime Minister Churchill again attempted, on Sept. 28, to break the deadlock between the Polish Government in London and the Kremlin by urging the Poles to accept Russia's frontier terms lest rival régimes, one recognized by the Soviet Union and the other by the Western Powers, come into existence. The British Prime Minister followed up this frank statement by inviting the Polish Premier, Stanislav Mikolajczyk, to meet with him and Stalin in Moscow on Oct. 13. This personal meeting failed to eliminate differences between the Polish and Russian governments, and Mikolajczyk resigned his post in acknowledgment of his inability to find a compromise solution. The new Polish Government, formed on Nov. 30, under Premier Tomasz Arcisewski, firmly adhered to the principle of no compromise with Russia.

On Dec. 15 Prime Minister Churchill made still another effort to secure the Polish Government's acceptance of Russian territorial terms by revealing in Parliament that Britain had agreed, at the Teheran Conference, to accept Russia's claims to eastern Poland. As a means of compensating the Poles he suggested that they be given German territories of sufficient size to insure them an adequate homeland. In addition, Churchill warned that if an agreement were not reached by the time the Red Army rolled westward, a Polish civil war involving conflicting ideologies might break out between the representatives of the government adhered to by the western Powers and the supporters of the Lublin group sponsored by Russia.

Although the British clearly endorsed the Russian attitude toward the Polish question, American authorities remained reluctant to do so. On Dec. 18, Secretary of State Stettinius declared that the United States disapproved of any Polish settlement except by an agreement of all parties concerned. With no sign of such a compromise in view, the Lublin Committee announced that it would constitute itself a provisional government on Jan. 1, 1945, thus creating the rival régime against which Prime Minister Churchill had previously warned.

RUMANIA

On the southern sector of the Russian front, the Red Army opened a summer campaign on the long-quiet Rumanian front that had spectacular results. By Aug. 23 the Rumanians were forced out of the war, and on Sept. 12 they signed an armistice with the Allies.

Rumania's speedy exit from the Axis camp was facilitated by the negotiations King Michael had been conducting with the Allies earlier in the summer. When, therefore, the Red Army appeared on Rumanian soil, the stage was set for a coup against the dictatorship of Marshal Ion Antonescu and the establishment of a coalition government headed by General Constantin Sanatascu and Juliu Maniu, the leader of the Peasant Party. Having recognized Russia's claims to Bessarabia and Bukovina, King Michael attempted to guarantee the return to Rumania of that part of Transylvania which Hitler ceded to Hungary in 1940, by ordering his troops to fight the Nazis and Hungarians.

BULGARIA

From Rumania the Red Army swept on to the borders of Bulgaria, the only Nazi satellite at war with Britain and the United States that had remained neutral toward Russia. The arrival of Soviet divisions on the Danube was followed on Sept. 1 by the resignation of Premier Ivan Bagrianoff's government, which had failed to secure better terms than unconditional surrender from the Red Army. Simultaneously it was announced in London that the Bulgarian Government had opened armistice negotiations with the United States and Britain, but these negotiations were never completed, for on Sept. 5 the Russians declared war on Bulgaria and began an unopposed occupation of the country. As a result, the Bulgarians were forced to break off relations with Germany and, on Sept. 8, to declare war on the Reich. On the following day a new peace government, headed by Kimon Georgiev, secured an end of Russian hostilities. Armistice negotiations with Russia, Britain, and the United States were not completed until Oct. 28, however, apparently because of difficulties arising out of the Bulgarian occupation of Macedonia.

YUGOSLAVIA

The Red Army's junction with the Yugoslav Partisans on Sept. 29, when the Russians appeared north of Belgrade, reinforced with military cooperation the close political tie between the Soviet Union and Marshal Tito. Prior to this action the Yugoslav Government-in-exile had eliminated most of the main differences between itself and the Partisans. On Aug. 8, the government, under its new Premier, Dr. Ivan Subashitch, completely reversed its earlier policies by recognizing Tito's army and agreeing that the question of the future of the monarchy should be postponed until it could be submitted to a postwar election.

HUNGARY

On Oct. 3 the Red Army crossed the Hungarian frontier west of Arad, and by Oct. 6 was within 65 miles of Budapest. Political results of these military gains soon followed. On Oct. 15 the Budapest radio announced that Regent Nicolas Horthy had asked for an armistice, but on the following day, another announcement, made in Horthy's name, declared that the previous day's proclamation was null and void. This contradiction apparently reflected the fact that Horthy had attempted to secure an armistice prior to his retirement, but he had not succeeded in preventing the formation of a rival pro-Axis government. This government, under the leadership of Szalasy, head of the Arrow Cross organization, subsequently established itself near the Austrian border.

In areas under Red Army control the Russians dealt with authorities of the Horthy regime, claiming that the Regent had delegated full authority to his Chief of Staff, General Miklos, who, with the rank and file of the Hungarian army, collaborated with the occupying forces. During December the Russians made concentrated efforts to take Budapest, but the Nazis, realizing the importance of the capital's "bolt position" on the Danube, fought bitterly to hold it. It was not until the second half of January, 1945, that Budapest was finally occupied by the Russians.

GREECE

Greece, alone among the Nazi-occupied countries of southeastern Europe, was not liberated by the Red Army. Instead, British troops received this assignment in recognition of Britain's special interest in the Mediterranean area.

For months before the British forces, aided by Greek guerrillas, cleared Greece of remaining German garrisons (September), there had been reports of civil war within the country. During the spring, British and American liaison officers in Greece had been active in securing an agreement between EAM (National Liberation Front) and ELAS (Military Arm of EAM) that was announced on March 3, but this conciliatory measure was offset by the mutinies among Greek forces stationed in the Middle East that broke out in April. These disorders revealed EAM's determination to achieve its post-war political program, which included the establishment of a republic and drastic social reforms. Prime Minister Tsouderos, who was believed to favor a compromise with EAM, resigned on April 3, presumably because neither King George II nor the British Government approved this step. The cabinet crisis continued until Papandreou, leader of the Republican Socialist Party, who was willing to accept the king for the duration of the war, left Greece and formed a new government (April 26).

Following liberation the issues between EAM and supporters of the government were sharpened as a result of an official order requiring guerrillas to turn in their arms. On Dec. 4, fighting between Greek police and EAM broke out in Athens, and on the following day British troops intervened in support of the government.

Liberal British circles immediately protested against Britain's armed intervention in Greece, and Secretary of State Stettinius declared on Dec. 7 that American policy required that liberated peoples should have complete freedom in deciding their political fate. Under these circumstances the British policy of opposition to EAM underwent considerable revision. On Christmas Day, Prime Minister Churchill and Foreign Secretary Eden arrived in Athens to help achieve a compromise between the opposing Greek groups. The result was the establishment of a regency under Archbishop Damaskinos that was designed to function until the Greeks were able to hold regular elections.

WITHIN GERMANY

Deep dissatisfaction with the Nazis' conduct of the war on the part of a number of professional soldiers who believed Germany should make peace in order to save as many of its resources as possible was indicated by the alleged coup on July 20. On that date Hitler's Headquarters announced that an attempt had been made on the Fuhrer's life, but that he had escaped without serious injuries. According to Hitler's broadcast late that night, "A very small clique of ambitious, irresponsible, and at the same time senseless and criminally stupid officers," had tried to eliminate him and the Wehrmacht Command. Whether there actually had been such a plot on Hitler's life or whether the Nazi leaders staged the scene at Berchtesgaden, the result was a tightening up of the Nazis' control over German military and civilian life. A ruthless purge of "defeatists" was carried out by a "court of honor" made up of five high-ranking officers, and Reich Minister Heinrich Himmler was named Commander-in-Chief of the new German Home Army (the Volksturm).

During the five months following the supposed attempt on Hitler's life, the Fuhrer disappeared from the public scene, leading to widespread rumors in Allied countries that he had become ill or insane. At the time of the Wehrmacht's December offensive in the west, however, the German radio announced that Hitler's mysterious disappearance had been owing to his preoccupation with plans for this military move.

THE WAR IN THE ORIENT AND PACIFIC

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GENERAL

The year 1944 was one of important Allied successes in the Central and Southwest Pacific areas—Burma, the eastern border region of India, and the Philippine islands—but Japan countered with threatening advances in China which greatly weakened the position of the Chungking régime. The net effect was to bring the Tokyo government measurably nearer to defeat, although the problems of Allied strategy on the continent of Asia became more complicated. Among the Allied victories of the year, the Central Pacific and Philippine offensives launched by the United States were particularly significant. The high points of American operations against the Japanese in 1942 had been the defensive Battle of Midway and the landings in the Solomon Islands, also basically defensive in character. In 1943 the drive into the Gilbert Islands, marking the initiation of the genuinely offensive phase of American strategy in the East, occurred late in the year.

In 1944, however, the ejection of the Japanese from the Pacific islands was in full swing, with the enemy losing possession of a whole series of bases in the Marshalls, Marianas, Carolines, New Guinea (where operations were conducted by Australian, as well as American forces) and the Philippines. Many Japanese outposts that once loomed large in American thinking were by-passed. For example, Truk in the Carolines was neutralized by attacks from the air and from surface ships. In the course of all these operations the United States Navy manifested great flexibility far from its main base in the Hawaiian Islands, and many exceedingly difficult supply problems were dealt with successfully.

That all this could take place while Allied campaigns in western Europe were being prepared and carried out indicates clearly the growth of United Nations military power, particularly that of the United States. As far back as February 1944, after Paramushiru in the Kurile Islands, Rabaul on New Britain, and Kavieng on New Ireland had been shelled by surface vessels, the late Secretary of the Navy, Frank Knox, declared that American ships could "go where they please." In June it was announced that nearly 100 aircraft carriers were stationed in the Pacific; and Task Force 58, described as the most powerful and destructive naval unit in the history of sea warfare, was said to be able to launch 1,000 airplanes from its carriers. Nevertheless, at the beginning of 1945 it was obvious that the United Nations were still only in the process of winning the bases necessary for coming to grips with Japan. The Japanese Navy had been badly battered, but it continued to be a significant force, while the enemy armies remained largely beyond our reach.

SOUTHWEST PACIFIC FRONT

The campaign in the southwest Pacific was designed to bring General Douglas MacArthur's forces back to the Philippines as quickly as possible. This goal was achieved in a series of by-passing operations which advanced the Allied front from the northern Solomons and eastern New Guinea—roughly the position in January 1944—up the New Guinea coast and into the Netherlands East Indies. With the growth of American naval and air power, the "island-hopping" tactics of 1942 and 1943 gave way to "leap-frog" methods. The strategy was one of seizing key points and building them up as bases on the path to the main centers of Japanese power, while leaving in the Allied rear many thousands of Japanese troops, who were for the most part cut off from outside supplies and reinforcements.

Early in January American forces landed at Saidor, southeast of Madang on the New Guinea coast. Previously other troops had invaded the large island of New Britain, not far from New Guinea. The effect of the New Britain-Saidor operation was to establish Allied control of the intervening waters and to lay the basis for invasion of the Admiralty Islands to the northwest. The first move into this group took place at the end of February, and about mid-March a landing was made on Manus, the largest of the Admiralties. As a result, the Japanese on New Britain and New Ireland were further isolated. Moreover, by mid-April most of New Britain had been occupied and the Japanese had been pressed back into the area about Rabaul at the island's eastern tip. Meanwhile Australian and American troops were continuing their operations on New Guinea, and on April 22 United States forces went ashore at Aitape, Hollandia, and Tanamahara Bay. The move at Hollandia marked the first step into Dutch New Guinea, with Dutch administrators following the troops.

On May 17 landings were made 125 miles west of Hollandia at Tum and Arara on the New Guinea mainland and on nearby Wakde Island. Eleven days later General MacArthur's headquarters announced that American troops had invaded Biak in the Schouten Islands, 200 miles west of Wakde, and declared that, for strategic purposes, the New Guinea campaign was practically over. Early in July a further landing took place at Noemfoor, 100 miles west of Biak, and at the end of the month at Sansapor near the northwest tip of New Guinea, almost 200 miles beyond Noemfoor. On Sept. 15 still another great leap was made to the island of Morotai off the northern tip of Halmahera in the Netherlands East Indies. Morotai is 300 miles beyond Sansapor and an almost equal distance from the Philippines. In less than nine months American forces, with the valuable aid of the Australians on New Guinea, had moved from Saidor to Morotai, *i.e.*, roughly about as far as from Cairo to Berlin.

ADVANCES IN THE CENTRAL PACIFIC

The drive toward the Philippines from the southeast occurred simultaneously with a thrust in the same direction through the Japanese mandated islands in the Central Pacific. The initial step was taken on Feb. 1 when troops made their way ashore at Kwajalein in the Marshall Islands. On Feb. 18 there was a further landing in Eniwetok atoll, and by the end of March the American position in the Marshalls was secure. It should be noted that the entire island group was not seized, since the capture of Kwajalein, Eniwetok and other atolls neutralized the bases remaining in Japanese hands. As the American front in the Pacific moved forward, enemy garrisons left in the Marshalls ceased to be a factor of strategic significance in the war.

Saipan in the Marianas Islands, roughly 1,200 miles west of the Marshalls and 1,500 miles southeast of Tokyo, was invaded on June 14. The military problems presented by the mountainous and rather large islands of the Marianas chain were different from those faced in the small, coral atolls of the Marshalls group. The Saipan battle involved much difficult fighting for ridges and caves, but by July 8 the island had been conquered. About 23,000 Japanese were killed, with American casualties totaling 15,000, including 2,300 dead. On June 18 an American carrier task force near Saipan was attacked from the air. Over 400 Japanese airplanes were destroyed; United States losses included 27 aircraft and superficial damage to two carriers and one battleship. On

June 19 American carrier-based airplanes struck at units of the Japanese fleet approximately midway between Saipan and Luzon in the Philippines. Many Japanese ships were damaged, and at least one carrier was sunk. This action became known as the First Battle of the Philippine Sea.

On July 20, following a 17-day aerial and naval bombardment, troops landed on Guam, an American outpost seized by Japan in the early days of the Pacific war. Three days later Tinian Island, 2½ miles north of Saipan, was invaded. On Sept. 14 United States marines went ashore at Peleliu Island in the Palaus, a group really constituting the western end of the Caroline Islands. Two days later another landing took place on nearby Angaur, 500 miles from the Philippines.

RETURN TO THE PHILIPPINES

The completion of the campaigns in the central and southwest Pacific was followed on Oct. 20 by the announcement that American forces under General MacArthur had landed on the east coast of Leyte Island in the central Philippines. With the taking of the island capital of Tacloban, the Philippine Commonwealth government was reestablished on home soil. Heading the returned régime was President Sergio Osmena, who had succeeded President Manuel Quezon on the latter's death early in August.

The invasion of Leyte was probably a tactical surprise to the Japanese, but within a few days the enemy navy was making a major effort to interfere with the American operation. In the Second Battle of the Philippine Sea, fought during Oct. 23-27, the Japanese fleet came out of hiding and suffered a major defeat. On Oct. 23 three Japanese fleets were sighted: one was crossing the Sibuyan Sea south of Mindoro; a second was in the Sulu Sea southwest of Negros; and the third was observed southeast of Formosa. The first two fleets had the objective of converging on the American naval forces in and about Leyte Gulf. Had the maneuver succeeded, the effect on the Americans ashore on Leyte would have been extremely serious, but American aircraft and warships took full advantage of the opportunity offered them.

In the course of the fighting the Japanese lost two battleships, four carriers, six heavy cruisers, three light cruisers, and six destroyers plus three ships that were either small cruisers or large destroyers. Severely damaged vessels, some of which may have been sunk, included one battleship, three heavy cruisers, two light cruisers, and seven destroyers. Six battleships, four heavy cruisers, one light cruiser, and ten destroyers were reported to have escaped in a damaged condition. It was announced that one light aircraft carrier, two escort carriers, two destroyers, and one destroyer escort had been lost on the American side. In addition, some American vessels were damaged, but details were withheld in order to avoid giving information to the enemy.

The Japanese Navy did not reappear during the remainder of the Leyte campaign; nevertheless, the fighting for that island took longer than had been anticipated, since Tokyo poured reinforcements into western Leyte and put up a hard struggle for every mile of ground. After the capture of Palompon, the last Japanese stronghold on the island, on Dec. 25, General MacArthur announced that the campaign for Leyte and Samar, an adjoining island which also had been invaded in October, could be regarded as closed except for minor mopping-up operations. On Dec. 28 Secretary of War Stimson stated that Japanese dead counted in the Philippines totaled 55,237 plus "a great many thousands" still uncounted on Leyte or lost with their ships. American losses were far below these figures; three days before General MacArthur had estimated casualties at 2,623 killed, 8,422 wounded, and 172 missing, exclusive of American naval losses.

On Dec. 15, before the end of the Leyte campaign, American forces had landed unopposed on Mindoro Island, south of the main island of Luzon.

The magnitude of the advance is clear from the fact that Mindoro is about 300 airline miles from Leyte and roughly 600 miles in terms of the route actually followed by the amphibious force. Up to the end of the year the Japanese had not offered significant ground opposition to the move, although striking at the American troops from the air. One of the chief values of the land seized on Mindoro lay in its being less than two hours flying time from Manila.

As 1944 drew to an end the Philippine campaign seemed some distance from its conclusion, although foreshadowing the invasion of Luzon which took place in January, 1945. One of the significant features of the fighting in the islands was the support received from Filipino guerrilla troops who had operated effectively during the Japanese occupation and continued to do so after the American landings. If the Japanese radio was any indication, Tokyo was taking the Philippine drive very seriously. American control of the islands might mean the virtual severance of Japan's sea contacts with the conquered areas of southeast Asia, since the American Navy would then be in a position to patrol the bottleneck area between Luzon and the China coast. At the same time the Philippines might furnish bases for landings in south China or Formosa, or for air raids on Japan. The northern Philippines are not very much nearer to Tokyo than is Saipan in the Marianas, but they are considerably closer to Formosa and the Ryukyu Islands, as well as to southern Japan.

AIR RAIDS AND JAPANESE SHIPPING LOSSES

An important aspect of the Pacific war, less frequently emphasized than the struggle for bases, is the steady sinking of Japanese merchant shipping by American surface vessels, submarines, and aircraft. As far back as April, 1944 Admiral King, Commander-in-Chief of the United States Fleet, declared that Japan's merchant fleet was not more than two-thirds of what it had been in December 1941. The United States, he said, had sunk well over 2,000,000 cargo tons. On Jan. 1, 1945 Fleet Admiral Chester W. Nimitz reported that during the first 11 months of 1944 United States submarines had sunk 468 ships—presumably naval as well as merchant—totaling more than 2,500,000 tons. He said that more Japanese ships had been destroyed during the year than Japan had the industrial capacity to replace. The reduction of shipping facilities meant that Japan must be facing ever greater difficulties in supplying its forces overseas and in bringing home much-needed raw materials from conquered areas.

More widely commented on was the development of air warfare against the Japanese homeland and occupied areas. On June 15, B-29 Superfortresses entered the Pacific war by bombing the Imperial Iron and Steel Works at Yawata on the Japanese home island of Kyushu. The attacking planes operated from Chinese bases. In the following six months the B-29s, under the Twentieth Bomber Command in China and India, flew 20 major combat missions and dropped about 4,500 tons of bombs on Japan, Manchuria, the China coast, southern Sumatra, Burma, and Formosa. On Nov. 24, B-29 raids were launched from Saipan, and announcement was made of the establishment of the Twenty-first Bomber Command on that island. In the first month of operations from Saipan over 1,500 tons of bombs were dropped on Japan.

It was certain that 1945 would see a sharp increase in air activity, but the air war against the Japanese homeland was still in an early stage. From Saipan to Tokyo was a round trip of approximately 3,000 miles, and the distance from existing Chinese bases was still greater. Getting adequate supplies of high octane gasoline into China was no simple task with the facilities at hand, and even the supplying of Saipan involved a long sea trip.

BURMA FRONT AND INDIA

Circumstances in Europe prevented the Burma theater from developing along the lines planned at the Quebec conference of August 1943. At that time large-scale amphibious operations against the Japanese in Burma had been discussed, but as Admiral Mountbatten, Supreme Allied Commander in Southeast Asia, revealed a year later, all the landing craft allotted had been withdrawn subsequently for use in the West. Nevertheless, the Burma front proved an active one in 1944, partly by choice of the United Nations and partly as the result of an important Japanese offensive.

Early in February British operations began in the Arakan coastal area, stretching from the borders of India down to the Burmese port of Akyab. Several weeks later the Seventh Indian Division's line of communications was severed, and the troops had to be supplied for three weeks from the air. Although the Japanese were beaten back, activity on this front later ebbed, probably because of the monsoon season. Toward the end of the year British forces made important advances, which brought them to Foul Point four miles across the bay from Akyab.

In mid-March the Japanese opened a major offensive in the Chindwin valley and struck along a broad front toward the British Indian state of Manipur. Toward the end of the month they reached the Imphal-Kohima road in Manipur. Their objective apparently was to move on to the Assam-Bengal railway, the supply line supporting Allied troops in north Burma and the air traffic with China. Had they achieved their purpose, China would have lost its only important supply link with the outside world, and the project for a new land route from India through north Burma would have had to be dropped. Since it was only a few weeks later that Japan launched its most important drive in China since 1938, the expectation must have been that the air route over the Himalayas would be severed at a particularly difficult time for the Chinese. However, the Japanese, although fighting hard, were frustrated in these ambitions, and in mid-June British-Indian forces took the offensive. On Aug. 17 it was announced that the last of the invading forces had been driven from India.

One of the Japanese purposes in striking at India appears to have been to stir up political discontent in that country. On March 22 the then Japanese Premier, Hideiki Tojo, declared that Japan expected to "put India completely in the hands of the Indians." He mentioned the "Indian National Army" organized in southeast Asia under the pro-Axis Indian leader, Subhas Chandra Bose (died January, 1945), and also referred to the possibility that Bose's "Free India Provisional Government" might be established on Indian soil. However, Japan never advanced far enough to make any use of Bose except in radio propaganda, and there was no indication that Bose's appeal carried much weight inside India. This, despite the fact that the Indian political situation remained unsettled during 1944.

While the Manipur campaign was raging, Allied troops were carrying on important drives in north Burma to break the Japanese hold on that region and permit the establishment of land communications between India and China. During January and February the Japanese were pushed south in the Hukawng valley by Chinese troops, who had been trained in India and were part of Gen. Joseph W. Stilwell's forces. Following behind them were United States engineers, who laid down the Ledo Road, the name by which the projected route from northeast India was known. By the end of March the Hukawng valley had been cleared. In the process American troops known as Merrill's Marauders played an important role in jungle warfare, while British Major Gen. Orde Wingate's "Chindits," operating some distance to the south, landed behind enemy lines by glider and parachute. On March 24 General Wingate was killed in an airplane accident, but his force continued its operations. From April on, the Japanese were pressed back in the Mogaung valley, and on May

17 the Marauders, with attached Chinese units, seized the airfield at Myitkyina in a surprise move, but the Japanese reorganized quickly and managed to hold the city for almost three months more. Myitkyina was to be highly important to the Allies in safeguarding and shortening the air route into China from India.

Even before the seizure of the Myitkyina airfield, large Chinese forces, during the nights of May 10, 11, and 12, had crossed the Salween river in Yunnan on their way toward the Japanese-held city of Tengchung (or Tengyueh). This meant that the Japanese in the north Burma-Yunnan theater were being pressed on two fronts. The Salween drive took longer than had been anticipated, but the Japanese were slowly pushed back, with the result that by the end of the year Major Gen. Albert C. Wedemeyer, who had replaced General Stilwell as commander of the United States forces in China, was able to declare that China's land route to India was "almost cleared now."

WAR IN CHINA

On the China front the Japanese in 1944 scored their most important gains since the early victories of 1937-38. The unleashing of an offensive in Honan province in April was followed by the seizure of a series of important cities and railway lines hitherto denied to the invaders. After taking Chengchow in Honan, the Japanese advanced along the Peiping-Hankow railway until on May 9 the seizure of the line was completed. Toward the end of May Loyang, provincial capital of Honan, fell to the enemy. In June Changsha, capital of Hunan and an important communications center, was lost, and early in August the Japanese captured Hengyang in Hunan, despite lengthy and stubborn resistance by the Chinese defenders. The port of Wenchow was taken in September, and that of Foochow in October. Kweilin and Liuchow two crucial Kwangsi cities, were seized in November. The Japanese then sent small forces inland in the direction of Kweiyang, capital of Kweichow province, but this drive was turned back by the Chinese.

The Japanese successes, extending from one end of China to the other, had extremely serious effects. By taking the entire length of the Peiping-Hankow railway and expanding their control over a large part of the Hankow-Canton line, the invaders drove a deep wedge into the territory of the Chungking government, separating the far interior to a greater degree than ever before from the eastern provinces of Free China. At the same time Japan was able to tighten the links connecting the occupied areas on the continent. It appeared possible that an attempt would be made to establish unbroken railway transport from Manchuria to south China and perhaps even into continental southeast Asia, but many difficulties stood in the way of such a project.

Of more immediate importance was the loss of various advance air bases developed in eastern China by Major Gen. Claire L. Chennault's United States Fourteenth Air Force. One field after another was lost, the culminating setbacks being the fall of Kweilin and Liuchow. The Japanese objective was to weaken the China front as much as possible, perhaps in the hope of forcing China out of the war, but with the minimum purpose of impeding American landings on the China coast. As far back as Feb. 8, 1944 Admiral Chester W. Nimitz, Commander-in-Chief of the Pacific Fleet, had declared: "My objective is to get ground and air forces into China as soon as possible. I don't believe Japan can be defeated from the sea alone. . . . I believe Japan can be defeated only from bases in China. . . ." Five days later Lieut. Gen. Joseph W. Stilwell stated that Admiral Nimitz's proposed naval campaign toward the China coast "must be supported heavily by an aggressive Allied land and air offensive projected from the interior." In spreading out through central and south China the Japanese were doing their best to put obstacles in the way of the Nimitz strategy.

INTERNAL CHINESE PROBLEMS

The rapid succession of Chinese defeats laid bare the deterioration that had taken place in Chungking's war effort in recent years. Although the Chinese people were well aware of the difficulties created for Chungking by the inadequacy of foreign aid, there was an outburst of internal criticism exceeding in intensity all previous expressions of wartime dissatisfaction. Discontent resulted from a variety of circumstances—ever-mounting prices, hoarding and profiteering, corruption in government, and lack of democracy, but the catalyzing factor was the military debacle of 1944.

One outstanding development that aroused criticism occurred in northern Honan, where a Japanese force that never contained more than 100,000 men defeated seven times as many Chinese troops. At the outset of the campaign a large part of the Chinese army trucks in the area were diverted from the war to the task of evacuating the families and possessions of army officers and civilian officials to Sian. At the same time the military commandeered the oxen and ox-carts of the peasantry for war transport. Because of this mistreatment the Honan peasants, who had suffered from a terrible famine in 1942-1943, rose in rebellion. As the Chinese forces began to break up under Japanese pressure, the peasants disarmed their own men and, according to one estimate, took away 50,000 rifles from the troops under General Tang En-po.

The increasingly difficult military situation produced a growing demand for greater political unity, notably between the Chungking government and the Chinese communists, who control a vast area in northwest, north, and central China, largely behind the Japanese lines. Although cooperating in the early period of the war, Chungking and the Communists had been at loggerheads for several years. Symptomatic of the situation was the blockade maintained by the Central Government against the main communist base, a blockade which involved the diversion of some hundreds of thousands of Chinese troops from the war against Japan.

THE COMMUNIST ISSUE IN CHINA

Early in May negotiations for a political settlement between Chungking and the Communists were initiated in Sian, and on May 17 Lin Tsu-han, chairman of the Communist-led Border Region Administration in the northwest, arrived in Chungking for further talks. At the time, the omens for agreement seemed favorable, especially since the Central Government lifted temporarily its news blockade on the Northwest and allowed a group of foreign and Chinese correspondents to visit the communist areas. Nevertheless, negotiations dragged on through the summer without result. The main differences related to the size of the Communist armies, the removal of the blockade, the status of the guerrilla governments, the legalization of political parties, the granting of civil liberties, and the establishment of popular, constitutional government. The communists demanded the abandonment of one-party rule by the Kuomintang and advocated instead the establishment of a coalition government of all political groups. The communist position was unacceptable to Chungking, but at the end of the year a possibility of agreement still appeared to exist.

One of the high water marks of internal criticism was reached in September at a meeting of the People's Political Council, the official advisory body. Not only did members demand improvements in the conscription system, the initiation of measures against corruption, and other reforms, but there was sharp criticism of specific officials as well as an unmistakable desire for a settlement between the government and the communists. The Federation of Chinese Democratic Parties, a body embracing a number of lesser political groups distinct from both the Kuomintang and the Communist Party, played an important part in demanding changes. Within the government itself, the most outspoken advocate of reform was Sun Fo, President of the Legislative Yuan and the son of the famous Chinese nationalist leader, Sun Yat-sen.

CHINESE-AMERICAN RELATIONS

An important external factor in the Chinese military and political position was the policy of the United States government, which sought to aid Chungking's war effort and at the same time promote unity in China. American concern about Chinese conditions was indicated in June when Vice-President Henry A. Wallace arrived in Chungking after spending a month in the Soviet Far East. Washington's attitude toward the problems of Chinese unity was again suggested in July when, with Chungking's consent, an American military mission was sent to Yenan, the Chinese communist capital. This meant that the United States, which had long wished to establish direct contact with the communist forces, had at last succeeded in doing so. One important question that remained unanswered was whether the United States Army would be able to set up air bases in Communist China, from which to bomb enemy centers in North China, Korea, and Manchuria as well as in the Japanese homeland.

THE STILWELL INCIDENT

In September Major General Patrick J. Hurley and Donald M. Nelson, then chairman of the War Production Board, arrived in Chungking. It was Nelson's task to deal with the problem of raising Chinese production, which had fallen far below existing capacity, while Hurley was to consider ways of increasing China's military power. On Oct. 28, however, the lid blew off in Chinese-American relations when it was announced from Washington that Gen. Joseph W. Stilwell, Generalissimo Chiang Kai-shek's Chief of Staff, had been withdrawn. This action, taken at the Generalissimo's request, was followed by the appointment of Major General Albert C. Wedemeyer to the post held by Stilwell. The latter also gave up his command in the China-Burma-India theater and his position as deputy to Lord Louis Mountbatten.

Stilwell's recall produced a flood of American criticism of the Chungking government. It was clear that, whatever the particular incident leading to his removal, the basic issue was one of China's military effectiveness. It was reported that the United States had urged Chiang Kai-shek to place an American in command of all military forces in China, to undertake a thorough reorganization of his military establishment, and to reach a settlement with the communists so as to permit unified operations by all Chinese forces.

CHINESE GOVERNMENT CHANGES

At the time of the Stilwell incident it was impossible to say what the effects would be; but the events of the following weeks indicated that Chungking had decided on certain changes in policy and that Chinese-American relations were undergoing at least a slight improvement. On Nov. 20 an important cabinet shake-up took place: General Ho Ying-chin, Minister of War, Dr. H. H. Kung, Minister of Finance, and Chen Li-fu, Minister of Education, all of whom had been targets of Chinese and foreign criticism, were replaced in these posts. The new War Minister, General Chen Cheng, was known as a military leader who earnestly desired reorganization of the Chinese armies. On Dec. 4 Foreign Minister T. V. Soong was named Acting President of the Executive Yuan. The general effect of these and other changes was to raise hopes of further improvement, but at the end of 1944 it could not be said that decisive forward steps had as yet been taken, especially since the fundamental problems of Chungking-Communist unity and democratic reform remained unsettled.

Unquestionably the above-mentioned reforms, moderate though they were, laid a basis for smoother relations between Chungking and Washington. General Wedemeyer appeared to get along well with War Minister Chen Cheng and the Generalissimo;

while the appointment of Major Gen. Hurley to succeed Ambassador Clarence E. Gauss, who resigned soon after the recall of Stilwell, also seemed to point toward better personal relations. During November and December it was clear that General Chen was attempting to improve conditions in the Chinese Army and to follow American suggestions with regard to transport and other matters. Moreover, early in December, at the height of the Japanese threat to Kweiyang, it was announced that some of the government troops blockading the communist base area had been removed to Kweichow for action against the Japanese.

THE OUTLOOK IN CHINA

As the year drew to a close, it was difficult to balance the possibilities for 1945. On the one hand, there were certain favorable factors: the probability of increasing deliveries of supplies by air from India to China; the likelihood of early completion of the Ledo Road and, still more important, the India-China pipeline; and the prospect that a landing would be made on the China coast by American forces. On the other hand, there was a distinct possibility that early in the new year Japanese troops would renew their offensive operations on the China front. The outlook therefore remained grave.

ANGLO-AMERICAN COOPERATION IN THE FAR EAST

In July and August, President Roosevelt made a trip to the West Coast, Hawaii, and the Aleutian Islands, in the course of which he conferred with General MacArthur and Admiral Nimitz. These discussions presumably played some part in the preparations for the second Quebec Conference, held in September. At the Quebec meeting (discussed more fully in "The United States in Wartime"), one important issue that received consideration was the manner and degree of British participation in future operations in the Pacific. Prime Minister Churchill emphasized the desire of his country to play a maximum part in that area. Subsequently, in an address of Sept. 28, he revealed that he had offered some time before to conclude a treaty with the United States, pledging full use of Britain's strength against Japan until the end of the war, but Roosevelt had declared that Britain's word was good enough, and Churchill had then offered the United States use of the British Fleet. A large part of this fleet, according to the British Prime Minister, was already in the Indian Ocean, and early in 1944 Britain had begun to establish a tremendous fleet train to give its Navy greater mobility.

On Dec. 10, 1944 the British Admiralty announced the establishment of a new British Pacific Fleet headed by Admiral Sir Bruce A. Fraser who was to work under the strategic command of Admiral Nimitz and General MacArthur. On Dec. 21, Admiral Fraser arrived at United States Pacific Fleet headquarters for conversations with Admiral Nimitz. A British announcement of Dec. 29 stated that Admiral Fraser was "in full accord with the American strategy of using a large number of aircraft carriers, so it can be assumed that the British carrier fleet will be the strongest that can be assembled there."

THE U.S.S.R. AND JAPAN

There was much speculation during 1944 as to whether the Soviet Union would enter the Pacific war after the defeat of Germany, for there was no doubt that the tone of the Soviet press toward Japan was becoming more outspoken. On March 30, the Japanese suffered a severe diplomatic defeat when they signed an agreement, giving up their oil and coal concessions on northern Sakhalin island. Japan gained from the fact that the Soviet-Japanese fisheries accord, previously subject to annual renewal, was extended for five years, but Japanese rents on fishing areas were increased and Japanese fishermen were excluded from certain areas of strategic significance for the duration of the war. The net effect of these agreements was to strengthen the Soviet position in northeastern Asia and weaken that of Japan. There was no sign of friendliness between the two governments; in fact, *Izvestia*, official Soviet organ, noted bluntly that Japan's willingness to make concessions resulted from "the successes of the Red Army . . . and the development of the military operations of our Allies."

The most important Soviet statement on Japan during the year was contained in Premier Stalin's address of Nov. 6, in which he specifically referred to Japan as an aggressor nation. This declaration caused grave concern in Tokyo, especially since it raised questions as to the future of the Soviet-Japanese Neutrality Pact of April 13, 1941, which had been concluded for a five-year period. Under the terms of the treaty, it was to be extended for another five years, unless denounced by either party one year before its expiration, *i.e.* by April 13, 1945. At the end of 1944 the leaders in Tokyo were worried about the possibility that the Russians might issue such a denunciation.

DEVELOPMENTS IN JAPAN

The events of 1944 led to a noticeable instability in Japanese politics, marked by extensive internal criticism of the government's handling of production and other matters affecting the war. In the 84th Diet, which convened on Dec. 24, 1943, many questions were raised about the failure of the cabinet of Premier Hideiki Tojo to increase the output of food and munitions. In February the heads of three ministries—Finance, Agriculture and Commerce, and Transportation and Communications—were replaced. On Feb. 20 the Chief of the Army General Staff, Field Marshal Gen. Sugiyama, and the Chief of the Navy General Staff, Fleet Admiral Osami Nagano, were dismissed. This overturn reflected not only the first American air attack on Truk, which was carried out on Feb. 17, but also previous Japanese setbacks, including the successful American landings in the Marshall islands.

As political storms gathered, Premier Tojo did his utmost to bolster his administration. He used the name of the Emperor to remain in power and attempted through the Imperial Rule Assistance Association, of which he was President, to carry out a patriotic propaganda campaign that would renew popular confidence in the government. He also exerted great pressure to prevent criticism of his régime in the Diet. Nevertheless, the tide of events was running against him, and on July 18 the Tojo cabinet resigned. The loss of Saipan, which was announced to the Japanese people on the same day, formed part of the background of the cabinet change.

The Emperor now followed the unusual course of asking two men to form the cabinet: Gen. Kuniaki Koiso, Governor-General of Korea, and Admiral Mitsumasa Yonai. Koiso became Premier and Yonai Deputy Premier, but the latter's duties appeared to center largely in his post as Navy Minister. The War Ministry was headed by Field Marshal Sugiyama, who had been Chief of the Army General Staff until his dismissal by Tojo. Koiso pledged a more vigorous prosecution of the war, greater freedom of public opinion, a stronger air force, and a simplified administration. He immediately took steps to mobilize students for war work and to reduce the concentration of governmental authority. These measures were important because Tojo had been criticized sharply for not raising production to a sufficiently high level and for following a policy of over-centralized governmental control.

In the months that followed, a series of new boards was established, but it was not long before the Koiso cabinet was the subject of much internal dissatisfaction resulting from continued military setbacks, the development of air raids on the Japanese homeland, difficulties of food production and distribution, problems of transportation, and the necessity of mobilizing more labor in order to raise the output of munitions and airplanes. These issues were accompanied by grave problems of finance and inflation. Criticism was expressed at an extraordinary session of the Diet held early in September and appeared likely to become still more vocal at the 86th Diet which convened late in December. It seemed probable that Koiso would have trouble at this session with the Imperial Rule Assistance Political Society, the parliamentary wing of the Imperial Rule Assistance Association, Japan's nearest approach to a mass totalitarian party.

Under the circumstances facing Japan during 1944 it was obviously impossible for any Japanese cabinet to remain stable for any considerable period of time. No Premier, however skillful, could prevent air raids or stop the forward march of the United Nations in the Pacific. Nor could any mobilization of Japan's economic resources, however effective, enable Japanese factories to compete with the output of American war plants. This was likely to be all the more true in the future, since increasing B-29 raids could be expected to cut into Japan's production in 1945 and seriously interfere with plans for further mobilizing the country's economic strength. On the other hand, there was no doubt that Japan, for all its weaknesses, retained considerable powers of resistance and would fight bitterly and often effectively before going down to defeat.

THE WAR AND THE NEAR EAST

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AMERICAN INTEREST

Following the Teheran meeting held by President Roosevelt, Prime Minister Churchill, and Marshal Stalin at the close of 1943, American public interest in the Near East during the ensuing year centered chiefly on United States relations with Turkey in the effort to draw that country away from its dependence on Germany, and our concern over oil concessions in Saudi Arabia and Iran. Other developments which took place in this area in 1944, however, may prove of more lasting importance both to the United States and to the Near East. The perennial Palestine question considerably agitated American public opinion, and the continued terrorist acts within Palestine served to sharpen the issue of British rule in that mandated territory. Although the Near East has been long an area of vital importance to Great Britain, Soviet Russia in the past year showed an active interest in Near Eastern affairs, especially in Iranian oil, and exchanged diplomatic representatives for the first time with Egypt, Iraq, and the Lebanon. Lebano-Syrian negotiations with France for termination of the League Mandate were also conducted during the year, and great impetus was given to the movement of Arab federation under Egyptian leadership, a unity which, if it is achieved, will prove as important in the post-war development of the Arab states as the activities inaugurated by the Middle Eastern Supply Center.

MIDDLE EASTERN SUPPLY CENTER

The M.E.S.C., first established in 1941 to supply Allied forces in that theater of war and to allocate severely diminished civilian supplies, attempted in the past year to combat serious inflationary trends which persisted despite the fact that military operations had receded from the area. American officials have participated in the work of the M.E.S.C. since 1942; and although certain misunderstandings arose at the outset of 1944 between the British and Americans relative to present and future trading opportunities in the Near East, it was generally asserted that the M.E.S.C. had proved a model in regional cooperation. During 1944 two important international conferences were convened in Cairo. One held in February under the aegis of the M.E.S.C., considered the development of the agricultural resources of the Near East; the other, which met in April, dealt with financial problems, and recommended adjustments in price policies and the modernization of tax machinery in the various states. These activities represented long-term measures of international cooperation now being undertaken in the region.

TURKEY BREAKS WITH THE AXIS

After numerous delays during five years of war, the Turkish Government on Aug. 2 suspended diplomatic and economic relations with Germany, but stopped short of a declaration of war. This fact was the outstanding event of 1944 in Turkey. The break came shortly after U-boat attacks on Turkish shipping in the territorial waters of the Bosporus, but in preceding months severe pressure had been exerted by Britain and the United States to insure the stoppage of chrome shipments to Germany. Annual Turkish production of chrome in recent years has been about 100,000 tons. In 1943 exports to the United Nations reached 56,000 tons, and to Germany 47,000. During 1944, it is estimated that about 90,000 tons of chrome were available to the Allies as a result of the fact that all chrome exports to Germany were prohibited after April 20.

Twice during the year there were changes in the leadership of the Ministry of Foreign Affairs; before the diplomatic break with Germany, and following that break. On June 15, it was announced that the cabinet could not approve the recent policies of M. Menemenjoglu, and the Ministry was taken over by M. Sarajoglu. In February, Anglo-Turkish staff talks were suspended, and immediately before M. Menemenjoglu's resignation British Foreign Secretary Eden stated in Parliament that Turkey had been lax in detecting German military vessels or auxiliary vessels of war which were passing from the Black Sea to the Aegean. The second change at the Foreign Ministry came shortly after the severance of diplomatic relations with Germany, when M. Hasan Saka, a former Finance Minister, was appointed Foreign Minister. Despite the wavering policies revealed by these events, Turkish officials persistently voiced pro-United Nations sympathies and insisted that the foundation of Turkish foreign policy rested on the British alliance of October 1939. By November, press reports suggested that Allied-Turkish parleys were being held with respect to the modification of the Dardanelles régime, presently governed in accordance with the Montreux Treaty of July 1936.

OIL CONCESSIONS IN SAUDI ARABIA AND IRAN

Few Near Eastern developments caused more concern in 1944 than the struggle over future control of its oil resources. No final decisions were reached, however, with regard either to the plan announced on Feb. 5 by Harold L. Ickes, president of the Petroleum Reserves Corporation, indicating that the United States Government planned to construct a 1,250-mile pipeline to carry oil from the rich fields of Saudi Arabia and Kuwait, near the Persian Gulf, to the eastern Mediterranean shore; or on the Russian bid for oil concessions in northern Iran, announced on Sept. 23. Both moves indicated the potential importance of this, the world's richest unexploited oil field. It foreshadowed also active American and Russian participation in Near Eastern affairs, based on economic interests.

Concern lest American firms might lose hold of previous oil concessions in Saudi Arabia and realization that American domestic petroleum reserves were in danger of exhaustion led the United States Government to attempt to strengthen this country's position with respect to Near Eastern oil concessions late in 1943, but arrangements to that effect had been inconclusive. Thus the projected pipeline, first made public by the United States in February, was (it appeared after the announcement had provoked much criticism) proposed largely for the purpose of bringing the oil question into the open. It is estimated that the project would cost between $130,000,000 and $165,000,000 and would be financed by the United States Government in the form of a 25-year loan to the Arabian American Oil Company (owned by Standard Oil of California and the Texas Oil Company), which controls the Saudi Arabian field, and the Gulf Exploration Company (owned by Gulf Oil Corporation), which controls the Kuwait field. The original inspiration of the plan was credited to Commodore Carter of the Navy Department.

Subsequently, preliminary oil conversations between British and American experts were opened in Washington on April 19. Following long negotiations, the basis for a multilateral oil accord was announced on Aug. 8 by the United States and Britain, but the year closed with no hint as to prospects for adjustment of the world oil question in general or of the Near Eastern petroleum reserves in particular. There was clear indication by the year's end, however, that the United States Congress would not view the Anglo-American oil agreement with favor.

Final arrangements for Iranian oil concessions were also postponed during the year. Since late 1943, representatives of two United States oil companies, Standard-Vacuum and Sinclair, and of the British Royal Dutch Shell had been rival negotiators for petroleum concessions in southeastern Iran. The Soviet delegation, requesting oil and mineral concessions in Iran's five northern provinces, arrived in Iran on Sept. 23. Opposition to such concessions caused the resignation of the government in late August, and on Sept. 2, the new government decided that the whole matter should be postponed until the war was over.

With the Soviet bid, however, the matter was again opened, precipitating a controversy between the U.S.S.R. and the United States over policy toward Iran; and on Oct. 16 the Iran Government again announced that decisions on all concessions would be postponed until the war's end. Neither the United States nor Britain raised objections to the postponement of negotiation; but in the opinion of the Iranian Prime Minister, Mohammed Said Maraghei, the Soviet attitude and attacks in the Russian press were designed to bring about the downfall of his government. This occurred late in November, and a new government was formed by Mustafa Khan Bayat. In legal terms the issue revolved about Iran's sovereignty, guaranteed by the three-power Teheran declaration of Dec. 1, 1943. Soviet troops occupied the area north of Teheran and British troops were stationed in south Iran, while American forces concerned with supply routes to Russia were also present within the country's borders. Thus 1944 closed with the rivalry over oil concessions still paramount in Iran's politics, and its future destinies dependent on agreement among the three great powers—Great Britain, Russia, and America.

PALESTINE

On March 31, 1944 the five-year period limiting immigration to Palestine, announced in the British White Paper of 1939, drew to a close. This White Paper, which laid down the basic policy governing Palestine between 1939 and 1944, permitted 75,000 Jews to enter Palestine, but this quota remained unfilled because of war conditions. Provision was then made in November 1943 that the remaining numbers would be allowed to enter Palestine after March 31. However, no other significant change in policy relative to the future position of the Jewish homeland was presented by the British Government. Meantime terrorist activities of the most severe nature highlighted the Palestinian question. During the American presidential election campaign many public statements relative to British policies in Palestine were made in the United States, and both Arab and Jewish circles urged their points of view on Congress. In September the British Government announced the creation of a Jewish Brigade which would be formed and trained to take part in active operations on the side of the United Nations. This decision was greeted warmly by the Jewish Agency in Palestine.

Following the appointment on July 19 of Lord Gort as High Commissioner for Palestine and Transjordan an attempt was made on his life on Aug. 8. This was but the climax of continuous terrorist activities that had been rife since the first of the year. On Feb. 18, 1944, the Jewish national military organization, Irgun Svei Leuni, admitted in letters to the Hebrew press its responsibility for the bombing of the immigration offices at Jerusalem. The Stern Gang, another terrorist organization, was implicated in the murder on Nov. 6 at Cairo of Lord Moyne, British Resident Minister in the Middle East. These activities, condemned alike by the vast majority of Jews within and outside Palestine, were regarded as a response to the British limitation on immigration.

Opposition to the White Paper policy developed markedly in the United States during the year, and both the Democratic and Republican platforms of 1944 called for the transformation of Palestine into a Jewish Commonwealth. The Department of State, however, did not encourage movements for American intervention in Palestine affairs, but early in the year resolutions were presented in both houses of Congress urging that the doors of Palestine be opened for free entry of Jews into that country. In March, however, a vote on the measure was postponed indefinitely. Meantime, many appeals for such action from American Jewish groups had been sent to Congress, while several official representations had been received from the various Arab states in the Near East opposing the resolution, notably from Iraq, Egypt, and Syria and the Lebanon.

EGYPT AND ARAB UNITY

Egypt proved to be an important focal point in Near Eastern affairs during the year. There the diplomats of various European governments, in enforced absence from their homelands, met in consultation. The Middle Eastern Supply Center functioned from Cairo, and the international financial conference which dealt with Near Eastern problems also met in Cairo in April. Throughout the year the Egyptian Government was host to various delegations from neighboring Arab states, called to discuss the project of Arab federation, and in September the preparatory Pan-Arab Conference was held in Alexandria.

On Oct. 8 the King dismissed the Waafdist leader, Nahas Pasha, and his Government, and on the following day Ahmed Maher Pasha of the Saadist Party formed a cabinet. Mahud Nokrashy Pasha became Minister of Foreign Affairs. This change came shortly after the conclusion of the Pan-Arab Conference; but, although Nahas Pasha had been particularly active in the Pan-Arab conversations, it is significant that the King, in dismissing Nahas Pasha, noted the need for internal reforms and that the new Prime Minister took the portfolio of the Interior himself. Earlier in the year the former Prime Minister had stated the basis of Egyptian policy, when on Aug. 9, the anniversary of the Anglo-Egyptian Treaty, he indicated that the treaty contained the basis of independence, and described Egypt's post-war aims as the achievement of that independence, full democratic government, and collaboration with its neighbors in the Middle East.

The September Pan-Arab meeting was attended by Syria, Lebanon, Iraq, and Transjordan. Representatives of the King of Saudi Arabia and the King of Yemen were also present, although no delegate of the Palestinian Arabs was invited. Most observers doubted that real Arab unity could be achieved, despite the support British Foreign Secretary Eden had originally given the project in February 1943, but the preparatory Alexandrian conference ended with the signing by representatives of Egypt, Syria, Lebanon, Transjordan, and Iraq of a protocol providing for the formation of a

"League of Arab States" with a council designed to coordinate their political programs, safeguard their independence, and concern itself with the general interests of the Arab countries. The protocol also recorded the belief that the British engagement to restrict further Jewish immigration to Palestine and advance that country's independence were steps toward a desired goal.

IRAQ, SYRIA, AND THE LEBANON

Developments in Iraq in 1944 were chiefly concerned with the composition of the government and its espousal of the Arab cause in the Near East, particularly in Palestine. On Sept. 10 diplomatic relations were established with Russia. The government of General Nuri-es-Saïd, formed on Dec. 25, 1943, in which Saïd also held the portfolio of Defense and Subhi Al Dufftari that of Foreign Affairs, continued in authority until June 4 when the Premier resigned because of ill health. Hamdi Paschaci, president of the Chamber of Deputies, then formed a new cabinet.

In Syria and the Lebanon, negotiations with the French, represented by General Catroux, for the settlement of problems arising out of the termination of the League Mandate, proceeded throughout the year. On Dec. 22, 1943 General Catroux had signed an agreement whereby all duties exercised by France, along with the French staffs, were to be handed over to the Lebanese and Syrian governments on Jan. 1, 1944. The customs administration and tobacco monopoly were transferred by the French to the Lebano-Syrian authorities on Jan. 3, but difficulties arose in Lebanon by July 1 when the government there was forced to resign, and on Oct. 6 the Council of Ministers in France decided unanimously to reject a request made by the governments of Syria and the Lebanon that France should relinquish control of the special security troops in the two countries. Again in November the Lebanese Government was changed, but the year closed with the Syrian-Lebanese question unsolved, since the French refused to hand over the special police troops, and the two states would not agree to execute a treaty with France until they felt fully possessed of their sovereign rights.

THE UNITED STATES AND LATIN AMERICA

By Graham H. Stuart
Professor, Stanford University

ARGENTINA IN OPPOSITION

During the year 1944 Argentina took the leading role in the relations of the United States with Latin America, but from our point of view it was that of the villain rather than of the hero. Subsequent to the increasingly restrictive financial controls placed upon Argentine funds in the United States and the tightening up of the black list of Argentine firms doing business with the Axis in the fall of 1943, a short period of mutual recrimination followed. However, it was felt that some action of a more drastic character was needed when it was discovered that Argentina had helped to overthrow a pro-ally government in Bolivia. Argentina apparently realized that more serious measures were being prepared, for suddenly on Jan. 26, 1944 she severed diplomatic relations with Germany and Japan. The action was declared to be based upon the discovery of Axis espionage harmful to the government's security.

It was soon evident, however, that no real cooperation with the United Nations was contemplated. In fact, the military faction was so incensed at the step taken by President Ramirez that within a month he was forced to resign, and Vice President Farrell took over the government. In accordance with the procedure recommended by the Emergency Advisory Committee for Political Defense sitting at Montevideo, it was necessary for the American governments which were at war or had broken relations with the Axis to consult before granting recognition to a new government instituted by force.

In the present instance the situation was complicated by the fact that since the vice president took over, it was possible to claim that it was not a new government. Bolivia and Paraguay, which were to a considerable extent controlled by Argentina, took this point of view, and Chile decided to do the same. The United States, however, decided to recall Ambassador Armour for consultation, and meanwhile to withhold recognition until the policy of the Farrell Administration towards the Axis became evident. The State Department issued a public statement to the press to this effect on March 4.

THE UNITED STATES INDICTS ARGENTINA

On July 26, the Department of State issued a scathing indictment of the Argentine Government, giving in detail the reasons for non-recognition. It was declared that Axis diplomats and consuls were given the freedom of the country and numerous Axis spies and agents were set at liberty. Affirmative assistance was given to Axis firms both through official contracts and through requisitioning of critical materials from firms friendly to the democratic cause. Pro-Axis newspapers such as *Cabildo* and *La Fronda,* while attacking the United Nations, enjoyed governmental support and assistance in obtaining newsprint.

Although the Argentine Government had issued a memorandum on June 30 stating that at the proper time it would make public the measures "which it might adopt in consequence of its position of rupture," such an attitude was characterized by the United States as merely a continuation of Argentina's position of procrastination and evasion. The United States concluded its statement by declaring that it intended to adhere to its policy of non-recognition of the Farrell regime until by unequivocal acts it was conclusively demonstrated that Argentine policy would support inter-American unity and common action.

Publication of this statement in Argentina aroused demonstrations of hostility against the United States in Buenos Aires, and the Argentine Ambassador was immediately recalled from Washington. The United States now proceeded to put on more pressure. On Aug. 15 remaining gold stocks in the United States were frozen and on Sept. 7 Secretary of State Hull declared that Argentina was the Fascist headquarters for the Western Hemisphere. On Sept. 26 the Department of State announced that after Oct. 1 no more United States ships would call at Argentine ports. Three days later President Roosevelt declared that, since the Nazi radio and the pro-Nazi press in Argentina were seeking to undermine the position of the American republics and their associates among the United Nations by fabricating the vicious rumors that our councils were divided on the course of our policy towards Argentina, he wished to make clear the position of the United States. Declaring that Argentina had repudiated the solemn inter-American obligations upon which the security of this hemisphere was based, he wished to subscribe to Prime Minister Churchill's statement that nations must be judged by the part they play. "Not only belligerents but neutrals will find that their position in the world can not remain entirely unaffected by the part that they have chosen to play in the crisis of the war."

ARGENTINA REQUESTS A CONFERENCE

The Argentine Government now began to get somewhat worried. A huge prodemocratic demonstration which occurred on Aug. 24, celebrating the fall of Paris, had been harshly suppressed by the police. However, repercussions indicated that the pendulum was swinging against the colonels' clique, headed by Vice President Juan Domingo Peron, which controlled the government. On Oct. 27 the Argentine Government made a very adroit move. A formal request was presented to the Pan American Union that an Inter-American Conference of Foreign Ministers be held to consider the Argentine question. Although the State Department was not inclined to have a meeting for such an issue, the question had to be decided by the 20 American republics. Several of the South American republics—Chile, Colombia, Ecuador, and Venezuela—saw no reason to oppose a meeting, but the majority were unwilling to hold a meeting for such a purpose. As the year closed it appeared as though a meeting would be held primarily for the consideration by the Latin American states of the Dumbarton Oaks formula for international organization, but at the same time the Argentine situation might be considered.

DEVELOPMENTS FAVORING BETTER RELATIONS

Two other developments late in the year presaged a possible improvement of relations. Minister of War Peron, the real head of the Argentine dictatorship, took a number of steps long requested by the Department of State. The decree of June 15, 1942 for controlling Axis firms was implemented by stationing government controllers in the offices of German and Japanese-owned firms. German-language newspapers were suppressed, Nazi nationals were put under close supervision, and the United States black list was finally recognized. The State Department also moved in the direction of compromise, when, under the new Secretary of State, Edward R. Stettinius, Jr., Nelson Rockefeller was made assistant secretary of state in charge of Latin American affairs. As head of the Office of the Coordinator of Inter American Affairs he had been a notable exponent of the Good Neighbor policy, and in his new position he could be expected to make every effort to find a solution for this very serious interference with it.

REVOLUTION AND RECOGNITION IN BOLIVIA

One of Argentina's methods of sowing discord in the Western Hemisphere was to support pro-Nazi factions in states amenable to her influence. Such efforts had been made in Chile and Paraguay, but they were most successful in Bolivia. This republic, whose tin was vital to the cause of the United Nations and whose tungsten and oil were almost equally important, had long been subject to German influences. Its principal general in the disastrous Chaco War was the German General Hans Kundt. A majority of the large mercantile establishments in Bolivia were German and the German Lloyd Aereo Boliviano had 4,000 miles of airways and was a serious threat to the Panama Canal until it was taken over by Panagra. A Nazi coup was threatened in 1941, but President Peñaranda acted promptly and effectively in suppressing it. The Bolivian Government followed by severing diplomatic relations with the Axis powers in 1942 and declaring war in 1943.

The internal situation was constantly threatened by the unsatisfactory economic condition of the miners of tin. The largest mining group is owned by Patiño, who has lived abroad for more than 20 years; another is controlled by the German Argentinian Jew Hochschild; a third by the Bolivian Aramayo family. A strike in the Patiño mines in December 1943 placed the country in a state of siege and gave Argentina her opportunity. Two of the outstanding leaders of the Nationalist Revolutionary party, ex-Cabinet Minister Paz Estenssoro, and Police Chief Major Taborga, visited Buenos Aires and upon their return staged a revolution which unseated President Peñaranda. Paz Estenssoro, who became Minister of Treasury in the new government, claimed that the miners got no benefit from American contracts and promised to raise their standard of living. However, the new government, headed by Major Villaroel as President, found itself in a serious dilemma when the Inter American Advisory Committee for Political Defense recommended consultation before recognition. As a result of such deliberations the United States announced on Jan. 24, 1944, that recognition would not be accorded.

This action cut Bolivia off from all Lend Lease assistance and prevented a renewal of the copper, tungsten, and tin contracts, although tin continued to be purchased on a day to day basis. The La Paz junta decided that it would be advisable to make their government more democratic. The first step was to oust several pro-Nazi Cabinet ministers, including Major Taborga (Interior) and replace them by more liberal officials. This was followed by a promise of amnesty for political prisoners, freedom of the press, and the fixing of a date for free elections. The United States was not yet satisfied with the situation, and early in May directed United States Ambassador to Panama, Avra M. Warren, and Brigadier General Rolph Wooten to undertake a special mission to La Paz and report back. Meanwhile on May 16 Secretary Hull declared that the United States had not changed its policy of non-recognition. Ambassador Warren made his report on May 23, and although it has not been published, it apparently found that although certain Fascist elements still remained in the Cabinet, the Villarroel Government was disposed to cooperate loyally with the United Nations. As a result, on June 23 it was announced in Washington that since the Provisional Government of Bolivia had carried out a number of decisive and affirmative acts in support of hemisphere security and the cause of the United Nations, the American governments had consulted and found there was no further reason for withholding recognition.

As regards a new tin contract it was reported in December that the United States would agree to a five-cent per pound rise in the price of Bolivian tin provided the Bolivian Government would pledge itself not to increase the internal tax or other charges on tin exports. The United States also asked for a verbal pledge to raise wages if the price of tin were raised. The Bolivian Congress could work out this problem in any way so long as production of tin should not be interferred with. The Bolivian ambassador opposed the tax restriction but his government was still considering the proposal at the end of the year.

THE WATER TREATY BETWEEN THE UNITED STATES AND MEXICO

The outstanding event of the year in the relations between the United States and Mexico was the signing in Washington on Feb. 3, 1944 of a treaty relating to the utilization of the waters of the Colorado and Tijuana Rivers and of the Rio Grande. The question of the conservation and equitable distribution of the waters of the Colorado River and the Rio Grande has been a thorny problem facing the two countries for a long time. The recent rapid expansion of communities and agricultural areas along the common boundary with the coincident need for more water for irrigation emphasized the necessity of an international agreement covering these rivers.

According to the terms of the treaty with regard to the Colorado River, Mexico is allocated a minimum quantity of 1,500,000 acre-feet of water annually. If the United States finds there is a surplus, an additional 200,000 feet per year may be allocated to Mexico. On the other hand in the event of drought or accident to the irrigation system the water allotted to Mexico may be reduced in the same proportion as consumption uses in the United States are reduced.

As to the Rio Grande below Fort Quitman the treaty divides the waters about equally between the two countries. In addition the treaty provides for the building of storage reservoirs which will not only control floods but make available for beneficial use in both countries an average of 4,000,000 acre-feet of water now flowing unused into the Gulf of Mexico.

The provisions regarding the less important Tijuana River permit the orderly development and equitable distribution of the waters of this stream by storage, conservation, and flood control.

As an administering agency of the treaty, the International Boundary Commission, which has been functioning for more than half a century, is given jurisdiction under the new name "International Boundary and Water Commission of United States and Mexico." The powers of the Commission are restricted to international functions and its jurisdiction over waters is confined to those along the boundary concerned exclusively with the discharge of treaty functions. Both governments may exercise an absolute veto over the decisions of the Commission. The treaty enters into force on the day of exchange of ratifications and continues in force until terminated by another treaty concluded for the purpose between the two governments.

The treaty was prepared by engineers and diplomats of both countries who were guided by the principles of the good neighbor policy. It settled once and for all problems which had long vexed the two governments. It provided for additional flood control and further facilities to harness the waters concerned for the benefit of agricultural, municipal, and industrial uses. It may well serve as a landmark in such treaties where enlightened self interest gives due consideration to international obligation. In as much as six of the seven states in the United States primarily concerned are strongly in favor of the treaty—California alone opposes it—it is to be expected that the United States Senate will approve its ratification.

MEXICAN WORKERS IN THE UNITED STATES

Mention was made in The American Year Book, 1944 issue, of the agreements of 1943 for the temporary migration of Mexican agricultural and non-agricultural workers into the United States. This program proved so satisfactory to both countries that during 1944 some 75,000 Mexicans were employed in the United States harvesting vital crops and 50,000 more were engaged in keeping railroad tracks in repair for the movement of troops and supplies.

The following guarantees embodied in the agreements have proved very satisfactory: (1) the recruited workers may not engage in any military service; (2) they may not suffer discriminating treatment; (3) they are assured of transportation, living expenses, and repatriation; (4) they must be paid the prevailing wage for the work done in the locality where they work. Recruitment of agricultural labor is carried on exclusively in Mexico City while non-agricultural laborers were signed at Queretaro. Disputes of any sort are settled on the spot by mediation and if this fails formal complaint proceedings are used. The laborers came in under a six months contract but a liberal policy is followed in case the laborer wishes to return home for a valid reason. The contract may be renewed again and again, and there is a high per cent of renewals.

The agricultural workers have been used in farming fruit, grain, flax, cotton, sugar beets, vegetables, and guayule rubber. The non-agricultural workers have helped materially in the maintenance of way on most of the western railroads, particularly the Southern Pacific and the Santa Fe. The Pennsylvania and New York Central have also employed large contingents.

The wages paid both types of workers average about 60 cents an hour and 10 per cent of the monthly salary of all workers is deducted and deposited in savings banks in Mexico which are paid to the workers upon request when they return.

The program has been a valuable addition to the war effort of the two governments and has contributed materially to mutual appreciation as well as to the more immediate tangible advantages. Governor John Moses of North Dakota eloquently expressed the great satisfaction felt by the people of his state for the assistance rendered by the 3,000 Mexican workers who helped harvest the 1944 grain crop of North Dakota.

WAR-TIME ECONOMIC COLLABORATION

A new procedure for economic cooperation between the United States and the Latin American republics was developed during 1944, known as the "Mexico Plan" since its first application was with Mexico. The plan provided for joint consideration by the two governments concerned of a unified industrial program in a single pattern rather than the consideration of individual unrelated requests for industrial goods. The first integrated program was submitted by Mexico in March, 1944 and considered by the War Production Board, the Department of State, the Foreign Economic Administration, and the Coordinator of Inter-American Affairs. Such orders as are approved are placed directly by Mexican firms with the suppliers in the United States on a straight commercial basis. Chairman Donald M. Nelson of WPB indicated that other similar programs are to be expected.

As the result of a visit paid by Mexican Foreign Minister Padilla to the United States on July 12, 1944, a joint statement was issued by Secretary Hull and Minister Padilla as to further economic cooperation for mutual advantage. The program outlined gave particular attention to Mexico's transportation needs and promised that every effort would be made to improve the transportation facilities of Mexico by rail, by highway, by air, and by sea. A program of long-range industrialization was approved and a promise was made that trade barriers would not be permitted to interfere with it.

These policies were in agreement with the much more elaborate program worked out at the first conference of the Inter American Development Commissions which met in New York during May. This Conference passed 45 resolutions designed to strengthen the American economic situation, to stimulate post-war trade and to reduce reconversion difficulties. Included in the recommendations were the following: encouragement of private enterprise, no subsidization of synthetics in competition with natural raw materials except for national defense, relaxation of exchange controls, prohibition of cartel agreements, reduction of tariffs, the elimination of quota restrictions, and the facilitation of tourist trade including the adoption of tourist passports.

All of the Latin American Republics except Argentina were represented at the United Nations Monetary and Financial Conference at Bretton Woods, New Hampshire, during July. They obtained two permanent seats on the 11-man Executive Board of the $8,800,000,000 International Monetary Fund for stabilizing post-war exchange rates, and one seat on the Executive Board of the International Bank for Reconstruction.

INTERNATIONAL ORGANIZATION FOR PEACE IN THE AMERICAS

The role of the Latin American republics in the United Nations program for a world organization has been on the whole behind the scenes. At the Rio de Janeiro Conference of Foreign Ministers the Inter-American Juridical Committee was authorized to formulate specific recommendations relative to international organization and security. A preliminary report made by this Committee on Sept. 5, 1942 was a very sane and cogent declaration of some 14 principles upon which a sound international organization might be constructed. A second report dated June 5, 1944 laid down certain additional postulates and eight recommendations based upon them.

The postulates suggested that the war itself was furnishing certain procedures and cooperative efforts which should be increased and developed further since it was already evident that the transition to peace would be gradual. In so much as the cooperation of all the American states was desirable, certain recommendations approved by the Inter-American Juridical Committee were submitted for further consideration.

These resolutions recommended the immediate establishment of an international juridical institution of a preliminary character to consider international reconstruction and the organization of international peace. The creation of a General Assembly open to the United Nations and the associated American republics was suggested. It was further suggested that an Executive Committee, consisting of the powers now bearing the brunt of the war, and later of other states, should formulate policies to be submitted to the Assembly with reference to international reconstruction and reorganization. A General Secretariat might serve as a central administrative agency, and special committees might be established to study various problems of post-war reconstruction. In this way existing administrative agencies might be coordinated and the general lines of international organization worked out.

Although Prof. Charles G. Fenwick, the American representative on the Inter-American Juridical Committee, brought this report back in time for consideration at the Dumbarton Oaks Conference no hearing was given to it. It was rather decided to call a meeting of foreign ministers later to consider the program devised at Dumbarton Oaks and the position which would be taken by the Latin American republics in regard to it. This policy was somewhat complicated by the Argentine request for a meeting to consider her situation but it seemed as though a meeting might be called early in 1945 to consider both questions.

FOREIGN SERVICE OF THE UNITED STATES

By Laurence C. Frank

Chief, Division of Foreign Service Administration, State Department

ADMINISTRATIVE REGULATIONS

The administrative regulations issued in pursuance of the Foreign Service Act of Feb. 23, 1931, as amended, are to be found in Executive Order No. 8696 of April 18, 1940. These regulations implement the act by providing, among other things, for a Board of Foreign Service Personnel, a Board of Examiners and a Board of Foreign Service Officers' Training School.

BOARD OF FOREIGN SERVICE PERSONNEL

The duties of this Board are to examine into the character, ability, efficiency, experience, and general availability of all members of the Foreign Service with a view to promotions, transfers, and separations; to consider controversies or delinquencies among the Service personnel, and to recommend for promotion to the grade of minister those officers who have shown special capacity. The Board is composed of not more than three Assistant Secretaries of State, an officer of the Department of Commerce, and an officer of the Department of Agriculture. One of the Assistant Secretaries of State is the Assistant Secretary who has supervision over the Division of Foreign Service Personnel and is chairman of the Board. The members of the Departments of Commerce and Agriculture sit only when nominations and assignments of Commercial and Agricultural Attachés, the selection or assignment of Foreign Service officers for specialized training in commercial or agricultural work, or matters of interest to those Departments, are under consideration. The Chief of the Division of Foreign Service Personnel and one other member of the Division may attend the meetings of the Board, but are not entitled to vote in its proceedings.

BOARD OF EXAMINERS

The duties of the Board are to hold examinations of applicants for admission to the Foreign Service. The examinations, both written and oral, are open only to Americans of good standing between the ages of 21 and 35, specially designated by the President for examination, who have been citizens

II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

DIPLOMATIC PERSONNEL

AMBASSADORS

	Accredited by United States		Accredited to United States	
Argentina	Edward L. Reed, Chargé d'Affaires ad interim	1944	———	
Belgium	Charles Sawyer	1944	Count Robert van der Straten-Ponthoz	1935
Bolivia	Walter Thurston	1944	Señor Don Victor Andrade	1944
Brazil	Adolf A. Berle, Jr.	1945	Mr. Carlos Martins	1939
Canada	Ray Atherton[1]	1943	The Honorable Leighton McCarthy	1941
Chile	Claude G. Bowers	1939	Señor Don Marcial Mora—appointed	1944
China	General Patrick Hurley	1944	Dr. Wei Tao-Ming	1942
Colombia	John C. Wiley	1944	Señor Dr. Don Gabriel Turbay	1944
Costa Rica	Hallett Johnson	1944	Señor Don Francisco de P. Gutierrez	1944
Cuba	Spruille Braden	1941	Señor Dr. Don Guillermo Belt	1944
Czecho-Slovakia[2]	Laurence A. Steinhardt	1944	Mr. Vladimír Hurban	1943
Dominican Republic	Ellis O. Briggs	1944	Señor Don Emilio Garcia Godoy—appointed	1944
Ecuador	Robert M. Scotten	1943	Señor Galo Plaza	1944
El Salvador	John F. Simmons	1944	———	
France	Jefferson Caffery	1944	Henri Bonnet	1944
Great Britain	John G. Winant	1941	The Right Honorable the Earl of Halifax, K. G.	1941
Greece	Lincoln MacVeagh	1943	Mr. Cimon P. Diamantopoulos	1942
Guatemala	Boaz Long	1943	Señor Don Eugenio Silva Pena—appointed	1944
Haiti	Orme Wilson	1944	Mr. André Liautaud	1943
Honduras	John D. Erwin	1943	Señor Dr. Don Julian R. Caceres	1943
Iran	Leland B. Morris	1944	———	
Italy	Alexander Kirk	1944	Signor Alberto Tarchiani	1945
Mexico	George S. Messersmith	1941	Señor Dr. Don Francisco Castillo Nájera	1935
Netherlands[3]	Stanley K. Hornbeck	1944	Dr. A. Loudon	1942
Nicaragua	James B. Stewart	1943	Señor Dr. Don Guillermo Seville Sacasa	1943
Norway[4]	Lithgow Osborne	1944	Mr. Wilhelm Munthe de Morgenstierne	1942
Panama	Avra M. Warren	1944	Señor Don Enrique A. Jiménez	1943
Paraguay	Willard L. Beaulac	1944	Señor Dr. Don Celso R. Velázquez	1942
Peru	John Campbell White	1944	Señor Don Pedro Beltrán	1944
Poland[5]	Arthur Bliss Lane—appointed	1944	Mr. Jan Ciechanowski	1941
Portugal	R. Henry Norweb	1944	Dr. Jao Antonio de Bianchi	1944
Spain	Norman Armour	1944	Señor Don Juan Francisco de Cárdenas	1939
Turkey	Edwin C. Wilson	1942	Mr. Orhan H. Erol, Chargé d'Affaires ad interim	1944
Union of Soviet Socialist Republics	W. Averell Harriman	1943	Mr. Andrei A. Gromyko	1943
Uruguay	William Dawson	1941	Dr. Juan Carlos Blanco	1941
Venezuela	Frank P. Corrigan	1939	Señor Dr. Don Diógenes Escalante	1939
Yugoslavia[6]	Richard C. Patterson, Jr.	1944	Dr. Ivan Franges, Chargé d'Affaires ad interim	1944

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[1] Accredited also to Denmark.
[2] Government of Czecho-Slovakia established in England.
[3] Government of the Netherlands established in England.
[4] Government of Norway established in England.
[5] Government of Poland established in England.
[6] Government of Yugoslavia established in England.

of the United States for at least 15 years, who are physically, mentally, and temperamentally qualified for the proper performance of the duties of the Foreign Service, and who are not married to aliens. American clerks who

FOREIGN SERVICE OF THE UNITED STATES

DIPLOMATIC PERSONNEL

MINISTERS

	Accredited by United States		Accredited to United States	
Afghanistan	Cornelius Van H. Engert	1942	Mr. Abdol Hosayn Aziz	1943
Australia	Nelson T. Johnson	1941	Sir Frederic Eggleston	1944
Denmark	Ray Atherton[1]	1943	Mr. Henrik de Kauffmann	1939
Egypt	S. Pinkney Tuck	1944	Mr. Mahmoud Hassan Bey	1938
Ethiopia	John K. Caldwell	1943	Blatta Ephrem Tewelde Medhen	1943
Estonia[2]	—		Mr. Johannes Kaiv, Acting Consul General of Estonia in New York City in charge of Legation	1939
Iceland	Louis G. Dreyfus, Jr.	1944	Mr. Thor Thors	1941
Iran	—		Mr. Mohammed Shayesteh	1940
Iraq	Loy W. Henderson	1943	Mr. Ali Jawdat	1942
Ireland	David Gray	1940	Mr. Robert Brennan	1938
Latvia[2]	—		Dr. Alfred Bilmanis	1935
Lebanon	George Wadsworth[3]	1944	—	
Liberia	Lester A. Walton	1935	—	
Lithuania[2]	—		Mr. Povilas Zadeikis	1935
Luxembourg	George P. Waller, Chargé d'Affaires ad interim	1944	Mr. Hugues Le Gallais	1940
New Zealand	Kenneth S. Patton	1944	Mr. C. A. Berendsen	1944
Saudi Arabia	Colonel William A. Eddy	1944	—	
Sweden	Herschel V. Johnson	1941	Mr. W. Bostrom	1926
Switzerland	Leland Harrison	1937	Mr. Charles Bruggmann	1939
Syria	George Wadsworth[4]	1944	—	
Thailand[2]	—		Mom Rajawongse Seni Pramoj	1940
Union of South Africa	General Thomas Holcomb	1944	Dr. S. F. N. Gie	1944

[1] Ambassador to Canada to serve concurrently as Minister to Denmark established in Canada.
[2] Closed.
[3] Accredited also to Syria; resident at Beirut.
[4] Accredited also to Lebanon; resident at Beirut.

have rendered satisfactory service in the Foreign Service for a period of five years immediately preceding the submission of their application for appointment as a Foreign Service officer may be exempted by the Board from written examinations and may be granted certain exceptions concerning age limitations. The Board is composed of three Assistant Secretaries of State, a director of the Office of the Foreign Service, an officer of the Department of Commerce, an officer of the Department of Agriculture, the Chief of the Division of Foreign Service Personnel of the Department of State, and the Chief Examiner of the Civil Service Commission.

FOREIGN SERVICE OFFICERS' TRAINING SCHOOL

The school is maintained in the Department of State for the instruction of new appointees to the Foreign Service, and is under the direction of the Board of Foreign Service Officers' Training School. The duties of the Board are to act in all matters concerning the functions of the school, with the approval of the Secretary of State; to select the director of the School from among the officers of the Foreign Service with the approval of the Secretary of State, and in its discretion to select other instructors from among the qualified officers of the Department of State, the Foreign Service, the executive departments of the Government, and other available sources. The Board is composed of the members of the Board of Foreign Service Personnel, the Chief of the Division of Foreign Service Personnel, and the Director of the School. The school was not operated in 1944. However, the facilities of the school are, during the wartime period, being utilized for the training of Foreign Service Auxiliary officers.

FOREIGN SERVICE EXAMINATION

Because of present war conditions, it was found impracticable to hold a

CLASSIFICATION, FOREIGN SERVICE 1944

	Salary	Number
Head of Missions		
Ambassadors	$17,500	25
Ambassadors	10,000	10
Ministers	10,000	15
Ministers	9,000	3
		53
Foreign Service Officers		
Class 1	$9,000–$10,000	46
Class 2	8,000– 8,900	51
Class 3	7,000– 7,900	77
Class 4	6,000– 6,900	78
Class 5	5,000– 5,900	83
Class 6	4,500– 4,900	118
Class 7	4,000– 4,400	163
Class 8	3,500– 3,900	58
Unclassified (A)	$3,000	76
Unclassified (B)	2,750	34
Unclassified (C)	2,500	8
		792
Clerks—Senior		
Class 1	$4,000	13
Class 2	3,750	18
Class 3	3,500	36
Class 4	3,250	49
Class 5	3,000	73
Clerks—Junior		
Class 1	2,750	82
Class 2	2,500	68
Class 3..All under	2,500	1,445
		1,784

written examination during 1944 for appointments to the American Foreign Service. The Board of Examiners for the Foreign Service has not set the date of a later general examination. However, a so-called "In-Service" examination for which only members of the junior ranks of the service are eligible was arranged for March, 1945.

CHANGES IN DIPLOMATIC AND CONSULAR PERSONNEL

During 1944 the Legation at Helsinki, Finland, was closed. The following consular offices were also closed: Corumba, Brazil; Osorno, Chile; Ciudad Bolivar, Venezuela; Manta, Ecuador; Bahia Blanca, Mendoza, and Rosario in Argentina; Coatzacoalcos, Mexico; Brighton, Trinidad, British West Indies; Kweilin, China; Nueva Gerona, Cuba; Cayenne, French Guiana; Ceuta and Melilla in Spanish North Africa; and Bone, Algeria.

Representation near the Government of Yugoslavia was, during 1944, transferred from Cairo, Egypt, to London, England. Representation near the Government of Belgium, which had been maintained in London, England, was reestablished at Brussels where an Embassy was reopened; representation near the Government of Greece, which had been maintained at Cairo, Egypt, was reestablished at Athens where an Embassy was opened; and representation near the Government of Luxembourg, which had been maintained at Ottawa, Canada, was reestablished at Luxembourg where the Legation was reopened.

Embassies were reopened at Paris, France, and Rome, Italy. Nine consular offices were reestablished in western Europe. New consular offices were established as follows: two in Great Britain, one in the Western Hemisphere, one in the Azores, one in northern Europe, and two in the Middle East.

The Foreign Service Auxiliary, which was added to the regular Foreign Service in 1942 in order to enable it to discharge its responsibilities in those phases of the war effort involving economic warfare, and political, economic and cultural cooperation in the Western Hemisphere and among the United Nations, consisted as of Dec. 31, 1944, of 521 officers, 966 clerks and 238 miscellaneous employees.

During 1944 there were 13 deaths, 14 retirements and 14 resignations of Foreign Service officers. On Dec. 31, 1944, the Service comprised 792 career officers.

PROMOTIONS FROM THE RANKS

Of a total of 35 ambassadors and 18 ministers, 27 of the former and 14 of the latter have previously served in the ranks of the Foreign Service or of the Department of State.

THE LEAGUE OF NATIONS AND ASSOCIATED AGENCIES

By Arthur Sweetser
Chairman, United Nations Information Board

CHANGE FROM ISOLATIONISM TO INTERNATIONALISM

American relations with the three international agencies which grew out of the First World War—League of Nations, International Labor Organization, and Permanent Court of International Justice—changed completely during 1944 as the United States assumed the leadership in projecting the international agencies designed to grow out of the Second World War. Almost overnight the country moved from the periphery to the very center of international life and organization.

This had been forecast during the previous year and even since Pearl Harbor knocked the last supports out of any policy of isolation. Within three weeks of that awakening, the United Nations Declaration had been drafted and signed at the White House, and within a short time, two plenary United Nations conferences of 44 nations had been held, the first on the long-range organization of the world's food and agriculture problems and the second on the more immediate problems of relief and rehabilitation.

The year 1944 witnessed an acceleration of this process. A plenary conference of the International Labor Organization was held in Philadelphia in April and May to consider post-war world labor problems; a full United Nations Conference on monetary and financial problems was held at Bretton Woods in July to work out the bases of a world stabilization fund and a world bank; and an even more general conference on civil aviation was convened in Chicago in November to create an agency and principles for meeting some of the problems of the coming Air Age.

The greatest step of all, however, was the convocation during the summer of a conference at Dumbarton Oaks, first with Britain and the USSR, and then with Britain and China, to prepare the groundwork of a general agency of security and collaboration. There plans were drawn up tentatively by the four powers holding the chief military responsibility in the war, to be submitted to a plenary conference of all the United Nations early in 1945 as a basis for the general international organization to follow this war.

This sharp change was necessitated by the lessons of the war and the urgency of the peace. The American people had turned away from isolationism and were prepared to accept a program of positive international leadership and responsibility. The country was back somewhere near where it had been at the height of the last war and the launching of the League of Nations, though in a far grimmer, less emotional, and perhaps, therefore, more enduring temper.

FOREIGN POLICY TRUCE

The coming of the first war-time presidential election since the Civil War strikingly illustrated this tendency. Both political parties came out for strong international cooperation to prevent a third war, and both presidential candidates stood on this general principle. Instead of the devastating conflict which raged around the League of Nations in the 1920 campaign, something close to a truce regarding the Dumbarton proposals was arrived at between Secretary of State Cordell Hull and Republican Candidate Thomas E. Dewey, so that, while there were differences of degree and emphasis, there was no conflict in fundamentals. As a result, there was the greatest defeat of isolationist Senators and Congressmen in any election since the last war and a Senate and House returned to office far more favorable to international cooperation than since this question assumed national importance.

The old League of Nations conflict had echoes but only faint ones. Some Democratic speakers charged that, if the United States had joined the League in 1920, the Second World War would not have come about. On the other hand, Governor Dewey reversed the field in a speech at Minneapolis charging his opponent with having abandoned the League first in 1931, then during the London Economic Conference, and finally during the Geneva Disarmament Conference. These were faint echoes, however, of the old days, which only highlighted the fundamental change.

This change was graphically shown in various public opinion polls. A compilation prepared during the year showed that, when respondents were asked whether the United States should join a union of nations which might succeed the League of Nations, they had progressively replied:

	1937	1941	1942	1944
Approve	26%	38%	59%	72%
Disapprove	52%	39%	22%	13%
Undecided	22%	23%	19%	15%

A NEW LEAGUE

When the Dumbarton Oaks proposals were issued to the world, considerable interest centered on their similarity or dissimilarity to the Covenant of the League of Nations which also had been given to the world largely on American initiative. The State Department was forehanded in meeting such inquiries, as it was clear that the League Covenant and experience provided a known starting-point on which to base a comparison. Accordingly, the Department included in a "Question and Answers" document a section entitled "What are some of the important Differences Between the Proposed Organization and the League of Nations?" mentioning 11 points having to do with differentiation of powers between Security Council and Assembly, outlawing of force as well as war, control of non-member states as regards peace, creation of two Councils instead of one, greater and more immediate powers to use force, wider social and economic powers, greater coordination of specialized international agencies, relation of the unanimity rule in many cases, integration of the Court with the central agency, creation of a Military Staff Committee, provision for the suspension of membership of a guilty state, and the existence of an independent Charter for the Organization.

These differences were further amplified by State Department officials in the course of a series of speeches around the country. Joseph C. Grew, later appointed Under Secretary of State, said in Chicago: "There are two fundamental differences which in my opinion constitute a great advance over the League. In the first place, the Dumbarton Oaks Proposals assign to each of the principal organs of the Organization clear cut *responsibilities,* thereby eliminating any confusion as to jurisdiction. In the second place, each organ is endowed with appropriate powers for the discharge of its functions." After analysing those powers, he concluded: "I trust that you will agree with me that these obligations go considerably farther than those assumed by the parties to the Kellogg Pact and by the members of the League of Nations."

There were others, however, who felt that the League's difficulties had arisen not from lack of power but from lack of support by the states possessing power. This view was expressed by many American authorities, particularly those familiar with the League's history, but was perhaps most forcefully put in a statement widely quoted in the United States by Prime Minister Churchill: "This war could easily have been prevented if the League of Nations had been used with courage and loyalty by the Associated Nations. Even in 1935 and 1936 there was a chance, by making an armed Grand Alliance under the aegis of the League, to hold in subjection the rising furies in Germany, or at the very least to enter into armed conflict on terms far more favorable than those eventually forced upon us."

THE REMAINING LEAGUE

However this may be, a new and second attempt at world organization to prevent war was well under way by the end of 1944 under the leadership of the United States, as at a comparable period in the last war. This inevitably led the American Government to a more clearly defined attitude than heretofore regarding the agencies created in the first war, though that attitude in each case differed very widely. Towards the League of Nations it was that of a friendly and sympathetic non-member state, which gave hospitality to three branches of League work and which desired to perpetuate all the good points in League experience and learn from the weak points. Towards the International Labor Organization, it was that of the most active and influential member, anxious to develop the agency within its own field and ready to establish it as a specialized agency of the new general organization. Toward the Court, the attitude was different again, as the United States, while not a member, was vitally interested in it and anxious to make it, under the present or a new statute, "the principal juridical organ" of the new general agency.

One of the questions left undecided at the Dumbarton Oaks discussions was as to what should be done about the existing League. That agency was recognized as continuing in being, even if not very actively, as having a membership of 44 nations, including most of the United Nations, as having responsibilities in several hundred treaties, including the mandates treaties, and as possessing many valuable assets of staff, buildings, funds, and the like. Obviously, some kind of transfer or merger would be necessary; but, as this question involved over two-score nations and two of the four at Dumbarton Oaks were not members of the League, it was decided to postpone it till the general conference.

LEAGUE SERVICES IN AMERICA

Meanwhile, the United States continued to give hospitality to certain League services which could not function in Geneva during the war. These were, first, the two branches which came to this country in August 1940, when it appeared likely that Germany would overrun Switzerland, namely, the Economic, Financial, and Transit Department at Princeton and the Anti-Drug agencies in Washington. During the year, however, a third branch was established in Washington, the Health Research Unit, to make available to UNRRA the experience which the League's health services had amassed in the quarter century from the time of the danger of a typhus epidemic flooding westward out of Poland after the last war, through the building up of one of the League's most effective agencies. Most cordial cooperation was established between those groups and American and United Nations agencies in cognate fields, the Economic, Finance and Transit Department being invited to send observers to the Bretton Woods Monetary Conference as it had to the UNRRA Conferences.

Similarly the United States cooperated in so far as possible in what League work still was able to function. Two American citizens took part in the meeting in Montreal of the League's Supervisory Commission, which had been given plenary powers over League affairs during the emergency. Judge Manley O. Hudson representing the Permanent Court and Mr. Carter Goodrich the International Labor Organization. Two others took part in the meetings of the League's Economic and Finance Department at Princeton, notably as regards the prevention of a post-war depression, namely, Henry F. Grady, former Assistant Secretary of State and Chairman of the League's Economic Commission, and W. W. Riefler, former Minister attached to the American Embassy in London. Herbert L. May continued active in the League's anti-drug work, again going to London for meetings of the Central Opium Board. Still others took part in the meetings of health experts in London which worked out a world standard for the new drug penicillin. The Rockefeller Foundation renewed its grant of $60,000 towards the League's Economic and Financial studies, and the Milbank Memorial Fund made a grant for its health unit in Washington.

THE WORLD COURT

The year 1944 developed promise of terminating several decades of frustration in American advocacy of a world court of law. Nearly 40 years ago the then Secretary of State Elihu Root had formally proposed such an agency to the nations assembled at the Second Hague Conference; later in 1921, when the League of Nations as one of its first actions established a Commission to draft a precise project, Root had suggested the basic formulae which assured success. Thereafter, every President and Secretary of State for 20 years, whether Republican or Democratic, had urged American membership, and once the Senate ratified the statute. It added reservations, however, which the half-hundred other governments could not accept without counter-interpretations, and the whole project lapsed for another long period of years.

The Dumbarton Oaks Proposals brought the question back into the foreground. They provided that "there should be established an international court of justice which should constitute the principal judicial organ of the Organization." It was to be empowered, according to the State Department's analysis, to "consider and render judgments in disputes referred to it which can be settled upon the basis of rules of law" and "upon request, give advice to the Security Council on legal questions involved in other disputes."

The Proposals left open the question as to whether the statute of this Court should be "(a) the Statute of the Permanent Court of International Justice, continued in force with such modifications as may be desirable or (b) a new statute in the preparation of which the Statute of the Permanent Court of International Justice should be used as a basis." They included one important change, however, over the present Court, namely, that, instead of being based on an independent convention separately ratified and divorced as far as possible from the political agencies of the general international organization, the future court should be a distinct part of it, constituted by a statute annexed to and forming part of the general Charter, with all members of the general organization *ipso facto* parties and other states admitted only by the General Assembly on recommendation of the Security Council.

Meanwhile, the long, weary struggle to assure American support and ratification for the Court project continued throughout the country, as since the present Court's inception. The American Bar Association, other professional organizations, and countless general agencies of American opinion called once again upon the government to fulfill the hopes held out by Elihu Root early in the century. Moreover, an American citizen, Judge Manley O. Hudson, continued to serve as a Judge of the present Court, fourth in an eminent line of continuous service, including John Bassett Moore, Charles Evans Hughes, and Frank B. Kellogg.

THE INTERNATIONAL LABOR ORGANIZATION

A happier story can be told of this third general international agency created after the last war, also, in considerable part, with American support. After 12 years of misunderstanding and coldness, the United States assumed full membership in the Organization in 1933 and very shortly worked its way to a position of high leadership. This was accentuated during 1944 by the fact that the Organization, being unable to function in Europe, had transferred its main activities to the American Continent. The headquarters continued to be in Montreal, where they had been set up under the threat of German occupation of Switzerland, and a second war-time conference of the whole agency was held in Philadelphia in April to work out a cohesive program of post-war labor and industrial cooperation.

The American Government took a leading, if not the leading, part in this work. Secretary of Labor, Frances Perkins, opened and presided over the Conference; another American official, Carter Goodrich, served as Chairman of the Governing Body; and President Roosevelt received the delegates at the White House. In addition, American citizens served both officially and individually in nearly all the many far-flung activities of the organization.

The Dumbarton Oaks Proposals made no specific provisions regarding the International Labor Organization but proceeded on the hypothesis that this agency would be continued as the specialized, technical agency of the new general international organization in the field of labor and industrial matters. Provision was made in the Proposals for an Economic and Social Council, distinct from the Security Council, empowered, *inter alia,* "to receive and consider reports from the economic, social, and other agencies brought into relationship with the Organization," coordinate their activities, and examine their administrative budgets. A chart subsequently issued by the State Department included the International Labor Organization as one such agency, and its future seemed assured.

CONCLUSION

The year 1944 marked the greatest progress in America's approach towards international organization and cooperation that has taken place since the debacle following the last war. Solid foundations were laid for adapting the good points developed during the inter-war period and adding new elements of strength for creating a general international agency which would have some chance of averting still another world cataclysm.

PERIODICAL PUBLICATIONS

American Journal of International Law
700 Jackson Place N.W., Washington, D. C.
Current History
65 Fifth Ave., New York City.
Foreign Affairs
45 East 65th Street, New York City.
Foreign Policy Bulletin
22 East 38th Street, New York City.
Foreign Policy Reports
22 East 38th Street, New York City.
International Conciliation
405 West 117th Street, New York City.
Pacific Affairs
1 East 54th Street, New York City.
Pan-American Union Bulletin
Pan-American Union, Washington, D. C.
Time Weekly Newsmagazine (The)
9 Rockefeller Plaza, New York City.
United States Bulletin
State Department, Washington, D. C.
World Affairs
734 Jackson Place, Washington, D. C.

II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

Academy of Political Science, Fayerweather Hall, Columbia University, New York City.
American Academy of Political and Social Science, 3457 Walnut St., Philadelphia, Pa.
American Arbitration Association, 9 Rockefeller Plaza, New York City.
American Peace Society, 734 Jackson Place, Washington, D. C.
American Political Science Association, 105 Harris Hall, Northwestern University, Evanston, Ill.
American Society of International Law, 700 Jackson Place, N.W., Washington, D. C.
Carnegie Endowment for International Peace, 700 Jackson Place, N.W., Washington, D. C.
Council on Foreign Relations, Inc., 45 East 65th Street, New York City.
Council on World Affairs, Society for Savings Building, Cleveland, O.
Foreign Policy Assn., 22 East 38th Street, New York City.
International Reform Federation, 134 B St., N.E., Washington, D. C.
League of Nations Assn., Inc., 8 West 40th St., New York City.
National Council for Prevention of War, 532 17th St., N.W., Washington, D. C.
People's Lobby, Inc., 1410 H Street, N.W., Washington, D. C.
Women's International League for Peace and Freedom, U. S. Section, 1734 F Street, N.W., Washington, D. C.
World Peace Foundation, 40 Mount Vernon St., Boston, Mass.

REGIONAL

American Asiatic Assn., 1 Hanover Square, New York City.
China Society of America, 570 Lexington Ave., New York City.
Committee on Corporation in Latin America, 156 Fifth Ave., New York City.
English-Speaking Union, 19 E. 54th Street, New York City.
Far East Conference, 11 Broadway, New York City.
French Institute in the United States, 22 East 60th St., New York City.
Netherland-America Foundation Inc., 10 Rockefeller Plaza, New York City.
Panamerica Society, Inc., The, 67 Broad St., New York City.
Pan-Pacific Union, Inc., 1023 Alakea St., Honolulu, Hawaii.

PART TWO
AMERICAN GOVERNMENT

DIVISION III
THE NATIONAL GOVERNMENT

FEDERAL ADMINISTRATIVE ORGANIZATION

By William M. Schuyler
Editor, *The American Year Book*

THE PRESIDENT AND VICE PRESIDENT

President.—Harry S. Truman of Missouri (Democrat). Sworn into office as President of the United States, April 12, 1945, in succession to Franklin Delano Roosevelt. President Truman was inaugurated Vice President of the United States, Jan. 20, 1945, and succeeded to the Presidency upon the death of President Roosevelt, April 12, 1945.

Vice President.—Vacant.

Executive Office of the President.—

White House Office—Stephen Early (Virginia), William D. Hassett (Vermont), Secretaries; Grace G. Tully, Personal Secretary to the President.
Special Assistant to the President.—Harry L. Hopkins.
Bureau of the Budget—Harold D. Smith, Director.
Office for Emergency Management—Malcolm Ross, Chairman.
Board of War Communications—Paul A. Porter, Chairman.
Committee on Fair Employment Practice—Malcolm Ross, Chairman.
Foreign Economic Administration—Leo T. Crowley.
National War Labor Board—William H. Davis, Chairman.
Office of Alien Property Custodian—James E. Markham, Custodian.
Office of Civilian Defense—William N. Haskell, Director.
Office of Coordinator of Inter-American Affairs—Wallace K. Harrison, Coordinator.
Office of Defense Transportation—J. M. Johnson, Director.
Office of Economic Stabilization—Fred M. Vinson, Director.
Office of War Information—Elmer Davis, Director.
Office of War Mobilization and Reconversion—James F. Byrnes, Director.

War Manpower Commission—Paul V. McNutt, Chairman.

Office of Price Administration—Chester Bowles, Administrator.

Petroleum Administration for War—Harold L. Ickes, Administrator.

National Resources Planning Board—Frederic A. Delano, Chairman.

Selective Service System—Maj. Gen. Lewis B. Hershey, Director.

War Production Board—J. A. Krug, Chairman.

Smaller War Plants Corporation—Maury Maverick, Chairman.

War Shipping Administration—Rear Admiral Emory S. Land, Administrator.

Office of Scientific Work and Development—Dr. Vannevar Bush, Director.
Office of Censorship—Byron Price, Director.
President's War Relief Control Board—Joseph E. Davies, Chairman.
Material Coordinating Committee-U. S. and Canada—W. L. Batt and H. C. Sykes.
Joint War Production Committee —U. S. and Canada—William L. Batt, Chairman.
Combined Food Board—Claude R. Wickard, Chairman.
Combined Production and Resources Board—J. A. Krug and Capt. Oliver Lyttelton.
Combined Raw Materials Board—William L. Batt and Sir Henry Self.
Combined Shipping Adjustment Board—Rear Admiral Emory S. Land and W. O. Hart.
Joint Brazil-United States Defense Commission—Maj. Gen. J. G. Ord, Chairman.
Joint Mexican-United States Defense Commission—Vice Admiral A. W. Johnson, Chairman.
Liaison Office for Personnel Management—William H. McReynolds, Liaison Officer.

Presidential Vacancy.—By Act of Congress, in the case of vacancy occurring in the office of President through the death or removal of both the President and Vice President, the Cabinet Officers succeed to the Presidency in the order indicated in the arrangement of the following summary of the executive departments:

DEPARTMENT OF STATE

Secretary of State.—Edward R. Stettinius, Jr.

Under Secretary of State.—Joseph C. Grew.

Assistant Secretary of State for European, Far Eastern, Near Eastern, and African Affairs.—James C. Dunn.

Assistant Secretary of State for Congressional Relations and International Conferences.—Dean Acheson.

Assistant Secretary of State for Economic Affairs.—William L. Clayton.

Assistant Secretary of State for American Republic Affairs.—Nelson A. Rockefeller.

Assistant Secretary of State for Public and Cultural Relations.—Archibald MacLeish.

Assistant Secretary of State for Administration.—Julius C. Holmes.

Foreign Service Personnel Board.—Julius C. Holmes, Chairman.

Legal Adviser.—Green H. Hackworth.

Special Assistants to the Secretary of State.—
International Organization and Security Affairs, Leo Pasvolsky; Press Relations, Michael J. McDermott; Protocol, George T. Summerlin; Broad Management Affairs, Robert J. Lynch; Substantive Matters, G. Hayden Raynor.

Assistants to the Secretary of State.—
White House Liaison, Charles E. Bohlen; Drafting, Wilder Foote; Review and Coordination of Correspondence, Blanche R. Halla; Matters of General Policy, Carlton Savage; and Morris N. Hughes and James E. Brown, Jr.

Consultant to the Secretary of State.—Robert Woods Bliss.

Advisers to the Secretary of State.—
Arms and Munitions Control, Joseph C. Green; Petroleum Policy, Charles B. Rayner; Caribbean Affairs, Charles W. Taussig.

Special Advisers to the Secretary of State.—Isaiah Bowman and Henry P. Fletcher.

Directors of Offices.—
European Affairs, H. Freeman Matthews.
Far Eastern Affairs, Joseph W. Ballantine.
Near Eastern and African Affairs, Wallace Murray.
American Republic Affairs, Avra M. Warren.
Special Political Affairs, Edwin C. Wilson.
Economic Affairs, Bernard F. Haley.

Wartime Economic Affairs, Charles P. Taft.
Transportation and Communications (Vacant).
Public Affairs, John S. Dickey.
Foreign Service, Monnett B. Davis (Acting).
Departmental Administration, John Ross.
Controls (Vacant).

DEPARTMENT OF THE TREASURY

Secretary of the Treasury.—Henry Morgenthau, Jr.

Charged with the management of the national finances; prepares plans for the improvement of the revenue and support of the public credit; superintends collection of the moneys paid from and into the Treasury; controls construction of public buildings, coinage and printing of money, *ex-officio* chairman of the Federal Reserve Board.

Under Secretary of the Treasury.—Daniel W. Bell.

Assistant Secretary in Charge of Monetary Research and Foreign Funds Control.—Harry D. White.

Assistant Secretary in Charge of Customs, Narcotics, and Secret Service.—Herbert E. Gaston.

Director of Personnel.—Theodore F. Wilson.

Director of Public Relations.—Charles P. Shaeffer.

Assistants to the Secretary.—John W. Pehle, Theodore R. Gamble, Roy Blough, Ansel F. Luxford, Joseph E. Du Bois.

Administrative Assistant to the Secretary.—Charles S. Bell.

Technical Assistant to the Secretary and Budget Officer.—Charles R. Schoeneman.

Chief Clerk.—F. A. Birgfeld.

Commissioner of the Public Debt Service.—William S. Broughton.

Commissioner of Accounts.—E. F. Bartelt.

Director of Foreign Funds Control.—Orvis A. Schmidt.

General Counsel. — Joseph J. O'Connell.

Chiefs of Divisions.—

War Finance—Theodore R. Gamble, National Director.
Monetary Research—(Vacant).
Tax Research—Roy Blough.
Research and Statistics—George C. Haas.
Secret Service—Frank J. Wilson.
Procurement—John W. Pehle.
Chief Disbursing Officer—Guy F. Allen.

Comptroller of the Currency.—Preston Delano.

Has supervision of the national banks, their examination and reports; preparation and issue of national bank circulation; redemption and destruction of national bank notes. *Ex-officio* member of the Federal Reserve Board.

Treasurer of the United States.—William A. Julian.

Charged with the receipts and disbursement of all public moneys deposited in the Treasury and Sub-Treasuries and in national banks depositories.

Commissioner of the Bureau of Customs.—W. R. Johnson.

Commissioner of the Bureau of Internal Revenue.—Joseph D. Nunan, Jr.

Charged with general supervision of the collection of all internal revenue taxes, including the income tax, and the enforcement of internal revenue laws.

Director of the Bureau of the Mint.—Nellie Tayloe Ross.

Has general supervision of the mints and assay offices.

Commissioner of Narcotics.—H. J. Anslinger.

Director of the Bureau of Engraving and Printing.—Alvin W. Hall.

Produces all the securities and similar work of the Government printed from steel plates.

Custom House.—Franklin A. M. Shafer, Deputy Collector in Charge.

Committee on Practice.—G. C. Hanna, Chairman.

DEPARTMENT OF WAR

Secretary of War.—Henry L. Stimson.

Under Secretary of War.—Robert P. Patterson.

Assistant Secretary of War.—John J. McCloy.

Assistant Secretary of War for Air.—Robert A. Lovett.

Administrative Assistant and Chief Clerk.—John W. Martyn.

Special Assistants to the Secretary of War.—Julius H. Amberg, Harry H. Bundy, and Goldthwaite H. Dorr.

Clerk to the Secretary of War.—John W. Schott.

War Department General Staff.—General George C. Marshall, Chief of Staff; Lieut. Gen. Thomas T. Handy, Deputy Chief of Staff.

Commanding General, Army Ground Forces.—Gen. Joseph W. Stilwell.

The Adjutant General.—Major General James A. Ulio.

The Inspector General.—Major General Virgil L. Peterson.

The Judge Advocate General.—Major General Myron C. Cramer.

The Quartermaster General.—Major General Edmund B. Gregory.

Chief of Finance.—Major General H. K. Loughry.

Surgeon General.—Major General N. T. Kirk.

Chief of Engineers.—Major General Eugene Reybold.

Chief of Ordnance.—Major General L. H. Campbell.

Chief Signal Officer.—Major General H. C. Ingles.

Commanding General, Army Air Forces.—General of the Army H. H. Arnold.

Commanding General, Services of Supply.—Lieut. Gen. Brehon B. Somervell.

Chief of the National Guard Bureau.—Major General John F. Williams.

Chief of the Chemical Warfare Service.—Major General William N. Porter.

Chief of Transportation.—Major Gen. C. P. Gross.

Provost Marshal General.—Major General Archer L. Lerch.

The Army War College.—Colonel William N. Todd, Acting Commandant.

DEPARTMENT OF JUSTICE

Attorney General.—Francis Biddle. Represents the United States in all legal matters.

Solicitor General.—Charles Fahy.

Assistant to the Attorney General.—James P. McGranery.

Assistant Attorneys General.—Samuel O. Clark, Jr., Francis M. Shea, Wendell Berge, Tom C. Clark, Herbert Wechsler.

Assistant Attorney General, Division of Customs.—Paul P. Rao.

Immigration and Naturalization Service.—Ugo Carusi, Commissioner.

Director of the Bureau of Investigation.—J. Edgar Hoover.

Director of the Bureau of Prisons.—James V. Bennett.

Director of the Bureau of War Risk Litigation.—(Vacant).

Federal Prison Industries, Inc.—Sanford Bates, President.

Executive Assistant to the Attorney General.—(Vacant).

Administrative Assistant.—John Q. Cannon.

Chief Clerk.—Harvey C. Donaldson.

Chief of the Division of Records.—Armando di Girolamo.

Chief of the Division of Supplies and Printing.—Archibald C. Keegin.

Librarian.—Matthew A. McKavitt.

Pardon Attorney.—Daniel M. Lyons.

Board of Parole.—Arthur D. Wood, T. Webber Wilson, Edward P. Reidy.

POST OFFICE DEPARTMENT

Postmaster General.—Frank C. Walker.

Executive Assistant to the Postmaster General.—William F. Cronin.

Special Assistant to the Postmaster General.—George E. Clifford.

First Assistant Postmaster General.—Kildroy P. Aldrich.

Second Assistant Postmaster General.—Smith W. Purdum.

Third Assistant Postmaster General.—Ramsey S. Black.

Fourth Assistant Postmaster General.—Walter Myers.

Director of Parcel Post.—Jesse C. Harraman.

Solicitor.—Vincent M. Miles.

Chief Post Office Inspector.—Jesse M. Donaldson.

Superintendent of Air Mail Service.—(Vacant).

Bureau of Accounts.—Comptroller, John J. Haggerty.

DEPARTMENT OF THE NAVY

Secretary of the Navy.—James V. Forrestal.

Under Secretary of the Navy.—Ralph A. Bard.

Assistant Secretary of the Navy.—H. Struve Hensel.

Assistant Secretary of the Navy for Air.—Artemus L. Gates.

Special Assistants to the Secretary of the Navy.—Major Mathias F. Correa, Eugene S. Duffield, Capt. Lewis L. Strauss, Charles S. Thomas, Dr. Joseph W. Barker, R. Keith Kane.

Budget Officer.—Rear Admiral Ezra G. Allen.

Director of Shore Establishments.—Rear Admiral F. G. Crisp.

Commander in Chief, United States Fleet, and Chief of Naval Operations.—Admiral Ernest J. King.

Coast Guard.—Rear Admiral Russell R. Waesche, Commandant.

Chief of Naval Personnel.—Rear Admiral Randall Jacobs.

Chief of the Bureau of Yards and Docks.—Rear Admiral Ben Moreell.

Chief of the Bureau of Ordnance.—Rear Admiral G. F. Hussey.

Chief of the Bureau of Ships.—Rear Admiral Edward L. Cochrane.

Chief of the Bureau of Supplies and Accounts.—Rear Admiral W. B. Young, Paymaster General of the Navy.

Chief of the Bureau of Medicine and Surgery.—Rear Admiral Ross T. McIntire, Surgeon General.

Chief of the Bureau of Aeronautics.—Rear Admiral D. C. Ramsay.

Judge Advocate General.—Rear Admiral T. L. Gatch.

Lend-Lease Liaison Office.—Admiral J. M. Reeves.

General Board.—Admiral A. J. Hepburn, Chairman.

Interior Control Board.—Captain Vance D. Chapline, Senior Member.

President of the Board of Medical Examiners.—Rear Admiral Benjamin H. Dorsey.

President of the Naval Examining Board.—Rear Admiral Calvin H. Cobb.

President of the Naval Retiring Board.—Rear Admiral Benjamin H. Dorsey.

Naval Dispensary.—Captain Richard A. Warner, Medical Corps.

Navy Yard and Station, Washington, D. C.—Rear Admiral F. L. Reichmuth, Commandant.

Naval Research Laboratory.—Rear Admiral A. H. Van Keuren, Director.

Naval Air Station.—Captain Stanton Baldwin Dunlap.

Naval Medical Center.—Rear Admiral William Chambers, commanding officer.

Naval Medical School.—Captain Paul W. Wilson.

Naval Dental School.—Captain Rae D. Pitton, commanding officer.

Naval Hospital.—Captain John Harper.

Naval Medical Research Institute.—Captain Erik G. Hakansson, commanding officer.

President of the Board for Examination of Medical Officers.—Captain Paul W. Wilson.

President of the Board of Examination of Dental Officers.—Captain Paul W. Wilson.

Headquarters Marine Corps.—Lieut. General Alexander A. Vandegrift, Commandant.

Naval Examining Board (Marine Corps).—Col. Selden B. Kennedy, President.

Marine Barracks.—Colonel Donald J. Kendall, commanding.

DEPARTMENT OF THE INTERIOR

Secretary of the Interior.—Harold L. Ickes.

Charged with pensions, public lands, Indian Affairs, geological surveys, reclamation of arid lands, and mines.

Under Secretary.—Abe Fortas.

Assistant Secretaries.—Michael W. Strauss and Oscar L. Chapman.

Special Assistant to the Secretary.—William H. McCrillis.

Assistants to the Secretary.—Wesley C. Clark, May B. Conley, Sylvia Altman.

Assistant to the Secretary in Charge of Land Utilization.—Lee Muck.

Chief Clerk.—Floyd E. Dotson.

Solicitor.—Fowler V. Harper.

Commissioner of the General Land Office.—Fred W. Johnson.

Fish and Wildlife Service.—Ira N. Gabrielson, Director.

Commissioner of the Office of Indian Affairs.—John Collier.

Indian Arts and Crafts Board.—René d'Harnoncourt, Chairman.

Director of the Geological Survey.—William Embry Wrather.

Commissioner of the Bureau of Reclamation.—Harry W. Bashore.

Director of the National Park Service.—Newton B. Drury.

Director of the Bureau of Mines.—R. R. Sayers.

Division of Territories and Island Possessions.—Benjamin W. Thoron, Director.

Territorial Officials.—
- Alaska—Ernest Gruening, Governor.
- Hawaii—Ingram M. Stainback, Governor.
- Virgin Islands—Charles Harwood, Governor.
- Puerto Rico—Rexford G. Tugwell, Governor.

Puerto Rico Reconstruction Administration.—Benjamin W. Thoron, Administrator.

The Alaska Railroad.—Otto F. Ohlson, General Manager.

Petroleum Conservation Division.—Edward B. Swanson, Acting Director.

Solid Fuels Administration for War.—Harold L. Ickes, Administrator.

War Relocation Authority.—Dillon S. Myer, Director.

Director of Grazing.—Clarence L. Forsling.

Division of Power.—Arthur E. Goldschmidt, Director.

National Power Policy Committee.—Harold L. Ickes, Chairman.

DEPARTMENT OF AGRICULTURE

Secretary of Agriculture.—Claude R. Wickard.

Under Secretary.—Grover B. Hill.

Assistant Secretary.—Charles F. Brannan.

Assistants to the Secretary.—Carl Hamilton, Thomas J. Flavin, Seth D. Sims.

Office of Marketing Services.—M. Lee Marshall, Director.

Director of Extension Service.—Milburn L. Wilson.

Agricultural Research Administration.—P. V. Cardon, Administrator.

Director of Personnel.—T. Roy Reid.

Director of Information.—Keith Himebaugh.

Land Use Coordinator.—E. H. Wiecking.

Director of Finance and Budget Officer.—W. A. Jump.

Office of Plant and Operations.—Arthur B. Thatcher, Chief.

Solicitor.—Robert H. Shields.

Librarian.—Mildred C. Benton.

Office of Experiment Stations.—James T. Jardine, Chief.

Office of Foreign Agricultural Relations.—Leslie A. Wheeler, Director.

Bureau of Animal Industry.—A. W. Miller, Chief.

Bureau of Dairy Industry.—O. E. Reed, Chief.

Bureau of Plant Industry, Soils and Agricultural Engineering.—R. M. Salter, Chief.

Forest Service.—L. F. Watts, Chief.

Bureau of Agricultural and Industrial Chemistry.—O. E. May, Chief.

Bureau of Agricultural Economics.—Howard R. Tolley, Chief.

Bureau of Entomology and Plant Quarantine.—P. N. Annand, Chief.

Bureau of Human Nutrition and Home Economics.—Hazel K. Stiebeling, Chief.

Commodity Credit Corporation.—Frank Hancock, President.

Soil Conservation Service.—H. H. Bennett, Chief.

Farm Security Administration.—Frank Hancock, Administrator.

Farm Credit Administration.—I. W. Duggan, Governor.

War Food Administration.—Marvin Jones, Administrator.

Federal Farm Mortgage Corporation.—I. W. Duggan, Chairman.

Federal Crop Insurance Corporation.—Ernest R. Duke, Chairman.

Agricultural Adjustment Agency.—Norris E. Dodd, Chief.

Rural Electrification Administration.—William J. Neal, Acting Administrator.

DEPARTMENT OF COMMERCE

Secretary of Commerce.—Henry A. Wallace.

Under Secretary.—Wayne C. Taylor.

Assistant Secretary.—William A. M. Burden.

Assistants to the Secretary.—Norman W. Baxter, James W. Bryan, Howard H. McClure.

Administrative Assistant to the Secretary.—Malcolm Kerlin.

Solicitor.—South Trimble, Jr.

Chief Clerk and Superintendent.—Gerald Ryan.

Chief of Division of Budget and Accounts.—Richard A. Spencer.

Chief of Division of Publications.—G. Richard Koonce.

Chief of Division of Purchases and Sales.—Walter S. Erwin.

Librarian.—Charlotte L. Carmody.

Director of the Bureau of The Census.—James C. Capt.

Civil Aeronautics Administration.—Theodore P. Wright, Administrator.

Civil Aeronautics Board.—L. Welch Pogue, Chairman.

Director of the Bureau of Foreign and Domestic Commerce.—Amos E. Taylor.

Director of the National Bureau of Standards.—Lyman J. Briggs.

Director of the Coast and Geodetic Survey.—Rear Admiral L. O. Colbert.

Commissioner of the Patent Office.—Conway P. Coe.

Inland Waterways Corporation.—John S. Powell, Acting President-Chairman.

Weather Bureau.—Francis W. Reichelderfer, Chief.

National Inventors' Council.—Charles F. Kettering, Chairman.

Government Activities Directed by the Secretary of Commerce:

Reconstruction Finance Corporation
Defense Plant Corporation
Defense Supplies Corporation
Metals Reserve Company
Rubber Reserve Company
RFC Mortgage Company
Federal National Mortgage Association
Disaster Loan Corporation
War Damage Corporation

DEPARTMENT OF LABOR

Secretary of Labor.—Frances Perkins.

Charged with the duty of fostering, promoting, and developing the welfare of the wage earners of the United States and also working towards a solution of labor problems.

Administrative Assistant to the Secretary.—Frances Jurkowitz.

The Assistant Secretary.—Daniel W. Tracy.

Second Assistant Secretary.—(Vacant).

Special Assistant to the Secretary.—Mary La Dame.

Solicitor.—Douglas B. Maggs.

Chief Clerk and Budget Officer.—James E. Dodson.

Director of Information.—J. V. Fitzgerald.

Director of Conciliation.—Howard T. Colvin, Acting.

Director of Labor Standards.—Verne A. Zimmer.

Commissioner of Labor Statistics.—Isador Lubin.

Chief of the Children's Bureau.—Katharine F. Lenroot.

Director of the Women's Bureau.—Frieda S. Miller.

Wage and Hour and Public Contracts Division.—L. Metcalfe Walling, Administrator.

MISCELLANEOUS EXECUTIVE SERVICES

Civil Service Commission.—Harry B. Mitchell, President; Mrs. Lucille F. McMillin, Arthur S. Flemming.

Interstate Commerce Commission.—John L. Rogers, Chairman; J. Haden Alldredge, Clyde B. Aitchison, Claude R. Porter, William E. Lee, Charles D. Mahaffie, Walter M. W. Splawn, Carroll Miller, William J. Patterson, J. Monroe Johnson, George M. Barnard.

United States Employees' Compensation Commission.—Mrs. Jewell W. Swofford, Chairman; Albert H. Ladner, Jr. and Hattie W. Caraway.

General Accounting Office.—Lindsay C. Warren, Comptroller General of the United States.

Federal Reserve Board.—Marriner S. Eccles, Chairman; Ronald Ramson, Vice Chairman; M. S. Szymczak, John K. McKee, Ernest G. Draper, and Rudolph M. Evans.

Federal Trade Commission.—Ewin L. Davis, Chairman; Garland S. Ferguson, William A. Ayres, Charles H. March, Robert E. Freer; Otis B. Johnson, Secretary.

United States Tariff Commission.—Oscar B. Ryder, Chairman; Lynn R. Edminster, Vice Chairman; Edgar B. Brossard, E. Dana Durand, George McGill, George Z. Barnes; Sidney Morgan, Secretary.

National Housing Agency.—John B. Blandford, Jr., Administrator.

Federal Housing Administration.—Abner H. Ferguson, Commissioner.

Federal Home Loan Bank Administration.—John H. Fahey, Commissioner.

Federal Public Housing Authority.—Philip M. Klutznick, Commissioner.

Federal Power Commission.—Basil Manly, Chairman; Leland Olds, Vice Chairman; Claude L. Draper, John W. Scott, Nelson Lee Smith.

Federal Communications Commission.—Paul A. Porter, Chairman.

Veterans' Administration.—Brigadier General Frank T. Hines, Administrator.

United States Joint Chiefs of Staff.—Brig. Gen. Andrew J. McFarland, Secretary.

The Joint Economy Board.—Jarvis Butler, Secretary.

United States Maritime Commission.—Rear Admiral Emory S. Land, Chairman.

National Munitions Control Board.—Joseph C. Green, Executive Secretary.

Governor of the Panama Canal.—Major Gen. Joseph C. Mehaffey.

National Labor Relations Board.—H. A. Millis, Chairman.

National Advisory Committee for Aeronautics.—Dr. Jerome C. Hunsaker, Chairman.

The Commission of Fine Arts.—Gilmore D. Clarke, Chairman.

National Mediation Board.—H. H. Schwartz, Chairman.

National Capital Park and Planning Commission.—Gen. U. S. Grant 3rd, Chairman.

Smithsonian Institution.—

Established 1846 under the terms of the will of James Smithson for the "increase and diffusion of knowledge among men." The former aim is accomplished by the promoting of original, scientific research, and the latter by publications and lectures. The affairs of the institution are managed by a Board of Regents which cooperates with the Government and with National scientific bodies. Under the direction of the Institution are the National Museum, charged with preserving and utilizing objects of art and ethnological, geological, and mineralogical collections belonging to the United States; Bureau of American Ethnology, National Gallery of Art, Freer Gallery of Art, National Zoological Park, Astrophysical Observatory, and the Regional Bureau for the United States International Catalogue of Scientific Literatures.

Secretary, Alexander Wetmore.

National Gallery of Art.—David K. E. Bruce, President; Huntington Cairns, Secretary-Treasurer.

National Academy of Sciences.—Frank B. Jewett, President; Isaiah Bowman, Vice President; Frederick E. Wright, Home Secretary; Walter B. Cannon, Foreign Secretary.

Pan American Union.—L. S. Rowe, Director General.

Pan American Sanitary Bureau.—Surgeon Gen. Hugh S. Cumming, Director.

American National Red Cross.—Basil O'Connor, Chairman.

Permanent Joint Board on Defense.—F. H. La Guardia, Chairman.

Securities and Exchange Commission.—Ganson Purcell, Chairman.

Tennessee Valley Authority.—David E. Lilienthal, Chairman; Harcourt A. Morgan, James P. Pope.

Federal Deposit Insurance Corporation.—Leo T. Crowley, Chairman.

National Labor Relations Board.—H. A. Millis, Chairman.

Railroad Retirement Board.—Murray W. Latimer, Chairman.

The National Archives.—Solon J. Buck, Archivist.

Federal Security Agency.—Paul V. McNutt, Administrator.

Social Security Board—Arthur J. Altmeyer, Chairman.

Public Health Service—Thomas Parran, Surgeon General.

U. S. Office of Education—John W. Studebaker, Commissioner.

Federal Advisory Board for Vocational Education—Paul H. Nystrom, Chairman.

Office of Vocational Rehabilitation—Michael J. Shortley, Director.

Food and Drug Administration—Paul B. Dunbar, Commissioner.

Federal Works Agency.—Major Gen. Philip B. Fleming, Administrator.

Public Roads Administration—Thomas H. MacDonald, Commissioner.

Public Buildings Administration—W. E. Reynolds, Commissioner.

Federal Fire Council—W. E. Reynolds, Chairman.

MEMBERS OF THE SENATE

COMPILED FROM THE CONGRESSIONAL DIRECTORY, YEAR, 1945

(Dates show beginning of service in the Senate. Names of Republicans are in Roman type; those of Democrats in *Italics;* American Labor in ROMAN CAPS; Progressive in SMALL CAPS.)

ALABAMA

John H. Bankhead, 2d (1930).
Lister Hill (1938).

ARIZONA

Carl Hayden (1926).
Ernest W. McFarland (1940).

ARKANSAS

John L. McClellan (1942).
J. William Fulbright (1944).

CALIFORNIA

Hiram W. Johnson (1916).
Sheridan Downey (1938).

COLORADO

Edwin C. Johnson (1936).
Eugene D. Millikin (1942).

CONNECTICUT

Brien McMahon (1944).
Thomas C. Hart (1945).

DELAWARE

James M. Tunnell (1940).
C. Douglass Buck (1942).

FLORIDA

Charles O. Andrews (1936).
Claude Pepper (1936).

GEORGIA

Walter F. George (1922).
Richard B. Russell (1933).

IDAHO

John Thomas (1940).
Glen H. Taylor (1944).

ILLINOIS

Scott W. Lucas (1938).
C. Wayland Brooks (1940).

INDIANA

Raymond E. Willis (1940).
Homer E. Capehart (1944).

IOWA

George A. Wilson (1942).
Bourke B. Hickenlooper (1944).

KANSAS

Arthur Capper (1918).
Clyde M. Reed (1938).

KENTUCKY

Alben W. Barkley (1927).
Albert B. Chandler (1939).

LOUISIANA

John H. Overton (1932).
Allen J. Ellender (1936).

MAINE

Wallace H. White, Jr. (1930).
Owen Brewster (1940).

MARYLAND

Millard E. Tydings (1926).
George L. Radcliffe (1934).

MASSACHUSETTS

David I. Walsh (1926).
Leverett Saltonstall (1944).

MICHIGAN

Arthur H. Vandenberg (1928).
Homer Ferguson (1942).

MINNESOTA

Henrik Shipstead (1922).
Joseph H. Ball (1940).

MISSISSIPPI

Theodore G. Bilbo (1934).
James O. Eastland (1941).

MISSOURI

Forest C. Donnell (1944).
Frank P. Briggs (1945).

MONTANA

Burton K. Wheeler (1922).
James E. Murray (1934).

NEBRASKA

Hugh Butler (1941).
Kenneth S. Wherry (1942).

NEVADA

Patrick McCarran (1932).
James G. Scrugham (1942).

NEW HAMPSHIRE

Styles Bridges (1936).
Charles W. Tobey (1938).

NEW JERSEY

Albert W. Hawkes (1942).
H. Alexander Smith (1944).

NEW MEXICO

Carl A. Hatch (1934).
Dennis Chavez (1935).

NEW YORK

Robert F. Wagner (1927).
James M. Mead (1938).

NORTH CAROLINA

Josiah W. Bailey (1930).
Clyde R. Hoey (1944).

NORTH DAKOTA

William Langer (1940).
Milton R. Young (1945).

OHIO

Robert A. Taft (1938).
Harold H. Burton (1940).

OKLAHOMA

Elmer Thomas (1926).
E. H. Moore (1942).

OREGON

Guy Cordon (1944).
Wayne Morse (1944).

PENNSYLVANIA

Joseph F. Guffey (1935).
Francis J. Myers (1944).

RHODE ISLAND

Peter G. Gerry (1916).
Theodore F. Green (1936).

SOUTH CAROLINA

Burnet R. Maybank (1941).
Olin D. Johnston (1944).

SOUTH DAKOTA

Chan Gurney (1938).
Harlan J. Bushfield (1942).

TENNESSEE

Kenneth McKellar (1916).
Tom Stewart (1938).

TEXAS

Tom Connally (1928).
W. Lee O'Daniel (1941).

UTAH

Elbert D. Thomas (1932).
Abe Murdock (1940).

VERMONT

Warren R. Austin (1931).
George D. Aiken (1940).

VIRGINIA

Carter Glass (1920).
Harry F. Byrd (1933).

WASHINGTON

Warren G. Magnuson (1944).
Hugh B. Mitchell (1945).

WEST VIRGINIA

Harley M. Kilgore (1940).
Chapman Revercomb (1942).

WISCONSIN

ROBERT M. LA FOLLETTE, JR. (1925).
Alexander Wiley (1938).

WYOMING

Joseph C. O'Mahoney (1933).
Edward V. Robertson (1942).

MEMBERS OF THE HOUSE OF REPRESENTATIVES

COMPILED FROM THE CONGRESSIONAL DIRECTORY, YEAR, 1945

(Dates show beginning of service in the House. Names of Republicans are in Roman type; those of Democrats in *Italics;* American Labor in ROMAN CAPS; Progressive in small caps.)

ALABAMA

1. *Frank W. Boykin* (1935).
2. *George M. Grant* (1938).
3. *George W. Andrews* (1944).
4. *Sam Hobbs* (1935).
5. *Albert Rains* (1944).
6. *Pete Jarman* (1936).
7. *Carter Manasco* (1941).
8. *John J. Sparkman* (1936).
9. *Luther Patrick* (1944).

ARIZONA

At Large—*John R. Murdock* (1936).
Richard F. Harless (1943).

ARKANSAS

1. *E. C. Gathings* (1938).
2. *Wilbur D. Mills* (1938).
3. *James W. Trimble* (1944).
4. *Fadjo Cravens* (1939).
5. *Brooks Hays* (1943).
6. *W. F. Norrell* (1938).
7. *Oren Harris* (1940).

CALIFORNIA

1. *Clarence F. Lea* (1917).
2. *Clair Engle* (1944).
3. J. Leroy Johnson (1943).
4. *Franck R. Havenner* (1944).
5. Richard J. Welch (1925).
6. *George P. Miller* (1944).
7. *John H. Tolan* (1935).
8. Jack Z. Anderson (1938).
9. Bertrand W. Gearhart (1935).
10. *Alfred J. Elliott* (1937).
11. *George E. Outland* (1943).
12. *Jerry Voorhis* (1936).
13. *Ned R. Healy* (1944).
14. *Helen Gahagan Douglas* (1944).
15. Gordon L. McDonough (1944).
16. *Ellis E. Patterson* (1944).
17. *Cecil R. King* (1943).
18. *Clyde Doyle* (1944).
19. *Chet Holifield* (1943).
20. Carl Hinshaw (1943).
21. *Harry R. Sheppard* (1936).
22. John Phillips (1943).
23. *Ed. V. Izac* (1936).

COLORADO

1. Dean M. Gillespie (1944).
2. William S. Hill (1940).
3. J. Edgar Chenoweth (1940).
4 Robert F. Rockwell (1941).

CONNECTICUT

At Large—*Joseph F. Ryter* (1944).
1. *Herman P. Kopplemann* (1944).
2. *Chase G. Woodhouse* (1944).
3. *James P. Geelan* (1944).
4 Clare Boothe Luce (1943).
5 Joseph E. Talbot (1943).

DELAWARE

At Large—*Philip A. Traynor* (1944).

FLORIDA

1. *J. Hardin Petersen* (1933).
2. *Emory H. Price* (1943).
3. *Robert L. F. Sikes* (1940).
4. *Pat Cannon* (1938).
5. *Joe Hendricks* (1936).
6. *Dwight L. Rogers* (1944).

GEORGIA

1. *Hugh Peterson* (1935).
2. *E. E. Cox* (1925).
3. *Stephen Pace* (1936).
4. *A. Sidney Camp* (1939).
5. *Robert Ramspeck* (1929).
6. *Carl Vinson* (1914).
7. *Malcolm C. Tarver* (1927).
8. *John S. Gibson* (1940).
9. *John S. Wood* (1944).
10. *Paul Brown* (1933).

IDAHO

1. *Compton I. White* (1933).
2. Henry C. Dworshak (1938).

ILLINOIS

At Large—*Emily Taft Douglas* (1944).
1. *William L. Dawson* (1943).
2. *William A. Rowan* (1943).
3. *Edward A. Kelley* (1944).

MEMBERS OF THE HOUSE OF REPRESENTATIVES

4. *Martin Gorski* (1943).
5. *Adolph J. Sabath* (1907).
6. *Thomas J. O'Brien* (1943).
7. *William W. Link* (1944).
8. *Thomas S. Gordon* (1943).
9. *Alexander J. Resa* (1944).
10. Ralph E. Church (1943).
11. Chauncey W. Reed (1935).
12. Noah M. Mason (1936).
13. Leo E. Allen (1933).
14. Anton J. Johnson (1938).
15. Robert B. Chiperfield (1938).
16. Everett M. Dirksen (1933).
17. Leslie C. Arends (1935).
18. Jessie Sumner (1938).
19. Rolla C. McMillen (1944).
20. Sid Simpson (1943).
21. Evan Howell (1940).
22. *Melvin Price* (1944).
23. Charles W. Vursell (1943).
24. James V. Heidinger (1940).
25. C. W. (Runt) Bishop (1940).

INDIANA

1. *Ray J. Madden* (1943).
2. Charles A. Halleck (1935).
3. Robert A. Grant (1938).
4. George W. Gillie (1938).
5. Forest A. Harness (1938).
6. Noble J. Johnson (1938).
7. Gerald W. Landis (1938).
8. Charles M. La Follette (1943).
9. Earl Wilson (1940).
10. Raymond S. Springer (1938).
11. *Louis Ludlow* (1929).

IOWA

1. Thomas E. Martin (1938).
2. H. O. Talle (1938).
3. John W. Gwynne (1935).
4. Karl M. Le Compte (1938).
5. Paul Cunningham (1940).
6. James I. Dolliver (1944).
7. Ben F. Jensen (1938).
8. Charles B. Hoeven (1943).

KANSAS

1. Albert M. Cole (1944).
2. Errett P. Scrivner (1943).
3. Thomas D. Winter (1938).
4. Edward H. Rees (1936).
5. Clifford R. Hope (1926).
6. Frank Carlson (1935).

KENTUCKY

1. *Noble J. Gregory* (1936).
2. *Earle C. Clements* (1944).
3. *Emmet O'Neal* (1935).
4. *Frank L. Chelf* (1944).
5. *Brent Spence* (1931).
6. *Virgil Chapman* (1931).
7. *Andrew J. May* (1931).
8. *Joe B. Bates* (1938).
9. John M. Robsion (1935).

LOUISIANA

1. *F. Edward Hébert* (1940).
2. *Paul H. Maloney* (1943).
3. *James Domengeaux* (1940).
4. *Overton Brooks* (1936).
5. *Charles E. McKenzie* (1943).
6. *James H. Morrison* (1943).
7. *Henry D. Larcade, Jr.* (1943).
8. *A. Leonard Allen* (1936).

MAINE

1. Robert Hale (1943).
2. Margaret Chase Smith (1940).
3. Frank Fellows (1940).

MARYLAND

1. *Dudley G. Roe* (1944).
2. *H. Streett Baldwin* (1943).
3. *Thomas D'Alesandro, Jr.* (1938).
4. *George H. Fallon* (1944).
5. *Lansdale G. Sasscer* (1939).
6. J. Glenn Beall (1943).

MASSACHUSETTS

1. John W. Heselton (1944).
2. Charles R. Clason (1936).
3. *Philip J. Philbin* (1943).
4. Pehr G. Holmes (1931).
5. Edith N. Rogers (1925).
6. George J. Bates (1936).
7. *Thomas J. Lane* (1943).
8. Angier L. Goodwin (1943).
9. Charles L. Gifford (1922).
10. Christian A. Herter (1943).
11. *James M. Curley* (1943).
12. *J. W. McCormack* (1928).
13. R. B. Wigglesworth (1928).
14. J. W. Martin, Jr. (1925).

MICHIGAN

1. *George G. Sadowski* (1943).
2. Earl C. Michener (1935).
3. Paul W. Shafer (1936).
4. Clare E. Hoffman (1935).
5. Bartel J. Jonkman (1940).
6. William W. Blackney (1938).
7. Jesse P. Wolcott (1931).
8. Fred L. Crawford (1935).
9. Albert J. Engel (1935).
10. Roy O. Woodruff (1921).
11. Fred Bradley (1938).
12. *Frank E. Hook* (1944).
13. *George D. O'Brien* (1940).
14. *Louis C. Rabaut* (1935).
15. *John D. Dingell* (1933).
16. *John Lesinski* (1933).
17. George A. Dondero (1933).

MINNESOTA

1. August H. Andresen (1935).
2. Joseph P. O'Hara (1940).
3. *William J. Gallagher* (1944).
4. *Frank T. Starkey* (1944).
5. Walter H. Judd (1943).
6. Harold Knutson (1917).
7. H. Carl Andersen (1938).
8. William A. Pittenger (1938).
9. Harold C. Hagen (1943).

MISSISSIPPI

1. *John E. Rankin* (1921).
2. *Jamie L. Whitten* (1941).
3. *W. M. Whittington* (1925).
4. *Thomas G. Abernethy* (1943).
5. *Arthur Winstead* (1943).
6. *William M. Colmer* (1933).
7. *Dan R. McGehee* (1935).

MISSOURI

1. Wat Arnold (1943).
2. Max Schwabe (1943).
3. William C. Cole (1943).
4. *C. Jasper Bell* (1935).
5. *Roger C. Slaughter* (1943).
6. Marion T. Bennett (1944).
7. Dewey Short (1935).
8. *A. S. J. Carnahan* (1944).
9. *Clarence Cannon* (1923).
10. *Orville Zimmerman* (1935).
11. *John B. Sullivan* (1944).
12. Walter C. Ploeser (1940).
13. *John J. Cochran* (1927).

MONTANA

1. *Mike Mansfield* (1943).
2. *James F. O'Conner* (1945)

NEBRASKA

1. Carl T. Curtis (1943).
2. Howard H. Buffett (1943).
3. Karl Stefan (1935).
4. A. L. Miller (1943).

NEVADA

At Large—*Berkeley L. Bunker* (1944).

NEW HAMPSHIRE

1. Chester E. Merrow (1943).
2. Sherman Adams (1944).

NEW JERSEY

1. C. A. Wolverton (1926).
2. T. Millet Hand (1944).
3. James C. Auchincloss (1943).
4. D. Lane Powers (1933).
5. Charles A. Eaton (1925).
6. Clifford P. Case (1944).
7. J. Parnell Thomas (1936).
8. Gordon Canfield (1940).
9. Harry L. Towe (1943).
10. F. A. Hartley, Jr. (1929).
11. Frank L. Sundstrom (1943).
12. Robert W. Kean (1938).
13. *Mary T. Norton* (1925).
14. *Edward J. Hart* (1935).

NEW MEXICO

At Large—*Clinton P. Anderson* (1940).
Antonio M. Fernandez (1943).

NEW YORK

1. Edgar A. Sharp (1944).
2. Leonard W. Hall (1938).
3. Henry J. Latham (1944).
4. *William B. Barry* (1935).
5. *James A. Roe* (1944).
6. *James J. Delaney* (1944).
7. *John J. Delaney* (1931).
8. *Joseph L. Pfeifer* (1935).
9. *Eugene J. Keogh* (1936).
10. *Andrew L. Somers* (1925).
11. *James J. Heffernan* (1940).
12. *John J. Rooney* (1944).
13. *Donald L. O'Toole* (1936).
14. *Leo F. Rayfiel* (1944).
15. *Emanuel Celler* (1923).
16. Ellsworth B. Buck (1944).
17. Joseph Clark Baldwin (1941).
18. VITO MARCANTONIO (1938).
19. *Samuel Dickstein* (1923).
20. *Sol Bloom* (1923).
21. *James H. Torrens* (1944).
22. *Adam C. Powell, Jr.* (1944).
23. *Walter A. Lynch* (1940).
24. *Benjamin J. Rabin* (1944).

25. *Charles A. Buckley* (1935).
26. *Peter A. Quinn* (1944).
27. Ralph W. Gwinn (1944).
28. Ralph A. Gamble (1937).
29. Augustus W. Bennet (1944).
30. Jay LeFevre (1943).
31. Bernard W. (Pat) Kearney (1943).
32. *William T. Byrne* (1936).
33 Dean P. Taylor (1943).
34. Clarence E. Kilburn (1940).
35. Hadwen C. Fuller (1944).
36. Clarence E. Hancock (1927).
37. Edwin A. Hall (1939).
38. John Taber (1923).
39. W. Sterling Cole (1935).
40. *George F. Rogers* (1944).
41. James W. Wadsworth (1933).
42. Walter G. Andrews (1931).
43. Edward J. Elsaesser (1944).
44. John C. Butler (1941).
45. Daniel A. Reed (1919).

NORTH CAROLINA

1. *Herbert C. Bonner* (1940).
2. *John H. Kerr* (1923).
3. *Graham A. Barden* (1935).
4. *Harold D. Cooley* (1935).
5. *John H. Folger* (1941).
6. *Carl T. Durham* (1938).
7. *J. Bayard Clark* (1929).
8. *W. O. Burgin* (1938).
9. *R. L. Doughton* (1911).
10. *Joe W. Ervin* (1944).
11. *Alfred L. Bulwinkle* (1931).
12. *Zebulon Weaver* (1931).

NORTH DAKOTA

At Large—William Lemke (1943).
Charles R. Robertson (1944).

OHIO

At Large—George H. Bender (1938).

1. Charles H. Elston (1938).
2. William E. Hess (1938).
3. *Edward J. Gardner* (1944).
4. Robert F. Jones (1938).
5. Cliff Clevenger (1938).
6. Edward O. McCowen (1943).
7. Clarence J. Brown (1938).
8. Frederick C. Smith (1938).
9. Homer A. Ramey (1943).
10. T. A. Jenkins (1925).
11. Walter E. Brehm (1943).
12. John M. Vorys (1938).
13. Alvin F. Weichel (1943).
14. *Walter B. Huber* (1944).
15. P. W. Griffiths (1943).
16. *William R. Thom* (1944).
17. J. Harry McGregor (1940).
18. Earl R. Lewis (1943).
19. *Michael J. Kirwan* (1936).
20. *Michael A. Feighan* (1943).
21. *Robert Crosser* (1923).
22. Frances P. Bolton (1940).

OKLAHOMA

1. George B. Schwabe (1944).
2. *William G. Stigler* (1944).
3. *Paul Stewart* (1943).
4. *Lyle H. Boren* (1936).
5. *A. S. Mike Monroney* (1938).
6. *Jed Johnson* (1926).
7. *Victor Wickersham* (1941).
8. Ross Rizley (1940).

OREGON

1. James W. Mott (1933).
2. Lowell Stockman (1943).
3. Homer D. Angell (1938).
4. Harris Ellsworth (1943).

PENNSYLVANIA

1. *William A. Barrett* (1944).
2 *William T. Granahan* (1944).
3. *Michael J. Bradley* (1936).
4. *John Edward Sheridan* (1939).
5. William J. Greene, Jr. (1944).
6. *Herbert J. McGlinchey* (1944).
7. James Wolfenden (1928).
8. Charles L. Gerlach (1938).
9. J. R. Kinzer (1930).
10. *John W. Murphy* (1943).
11. *Daniel J. Flood* (1944).
12. Ivor D. Fenton (1938).
13. *Daniel K. Hoch* (1943).
14. Wilson D. Gillette (1941).
15 Robert F. Rich (1944).
16. Samuel K. McConnell, Jr. (1944).
17. Richard M. Simpson (1937).
18. John C. Kunkel (1938).
19. Leon H. Gavin (1943).
20. *Francis E. Walter* (1933).
21. Chester H. Gross (1943).
22. D. Emmert Brumbaugh (1944).
23. *J. Buell Snyder* (1933).
24. *Thomas E. Morgan* (1944).
25. Louis E. Graham (1938).
26. Harve Tibbott (1938).
27. *Augustine B. Kelley* (1941).
28. Robert L. Rodgers (1938).
29. Howard E. Campbell (1944).
30. Robert J. Corbett (1944).
31. James G. Fulton (1944).
32. *Herman P. Eberharter* (1936).
33. *Samuel A. Weiss* (1940).

RHODE ISLAND

1. *Aime J. Forand* (1940).
2. *John E. Fogarty* (1940).

SOUTH CAROLINA

1. *L. Mendel Rivers* (1940).
2. *John J. Riley* (1944).
3. *Butler B. Hare* (1938).
4. *Joseph R. Bryson* (1938).
5. *James P. Richards* (1933).
6. *John L. McMillan* (1938).

SOUTH DAKOTA

1. Karl E. Mundt (1938).
2. Francis Case (1936).

TENNESSEE

1. B. Carroll Reece (1933).
2. John Jennings, Jr. (1940).
3. *Estes Kefauver* (1939).
4. *Albert Gore* (1938).
5. *Harold H. Earthman* (1944).
6. *J. Percy Priest* (1940).
7. *Wirt Courtney* (1939).
8. *Tom Murray* (1943).
9. *Jere Cooper* (1929).
10. *Clifford Davis* (1940).

TEXAS

1. *Wright Patman* (1929).
2. *J. M. Combs* (1944).
3. *Lindley Beckworth* (1938).
4. *Sam Rayburn* (1913).
5. *H. W. Sumners* (1913).
6. *Luther A. Johnson* (1923).
7. *Tom Pickett* (1944).
8. *Albert Thomas* (1936).
9. *J. J. Mansfield* (1917).
10. *Lyndon B. Johnson* (1937).
11. *William R. Poage* (1936).
12. *Fritz G. Lanham* (1919).
13. *Ed Gossett* (1938).
14. *John E. Lyle* (1944).
15. *Milton H. West* (1933).
16. *R. Ewing Thomason* (1938).
17. *Sam M. Russell* (1940).
18. *Eugene Worley* (1940).
19. *George H. Mahon* (1935).
20. *Paul J. Kilday* (1938).
21. *O. C. Fisher* (1943).

UTAH

1. *Walter K. Granger* (1943).
2. *J. W. Robinson* (1933).

VERMONT

At Large—Charles A. Plumley (1935).

VIRGINIA

1. *Schuyler O. Bland* (1918).
2. *Ralph H. Daughton* (1944).
3. *Dave E. Satterfield, Jr.* (1937).
4. *Patrick H. Drewry* (1920).
5. *Thomas G. Burch* (1931).
6. *C. A. Woodrum* (1923).
7. *A. Willis Robertson* (1933).
8. *Howard W. Smith* (1931).
9. *John W. Flannagan, Jr.* (1931).

WASHINGTON

1. *Hugh De Lacey* (1944).
2. *Henry M. Jackson* (1940).
3. *Charles R. Savage* (1944).
4. Hal Holmes (1943).
5. Walter F. Horan (1943).
6. *John M. Coffee* (1936).

WEST VIRGINIA

1. *Matthew M. Neeley* (1944).
2. *Jennings Randolph* (1933).
3. *Cleveland M. Bailey* (1944).
4. Hubert S. Ellis (1943).
5. *John Kee* (1933).
6. E. H. Hedrick (1944).

WISCONSIN

1. Lawrence H. Smith (1941).
2. Robert K. Henry (1944).
3. William H. Stevenson (1940).
4. *Thad F. Wasielewski* (1940).
5. *Andrew J. Biemiller* (1944).
6. Frank B. Keefe (1938).
7. Reid F. Murray (1938).
8. John W. Byrnes (1944).
9. MERLIN HULL (1935).
10. Alvin E. O'Konski (1943).

WYOMING

At Large—Frank A. Barrett (1943).

ALASKA

E. L. Bartlett (1944).

HAWAII

Joseph R. Farrington (1943).

PHILIPPINE ISLANDS

Carlos P. Romulo (1944).

PUERTO RICO

Jesús T. Piñero (1944).

FEDERAL JUDICIAL ORGANIZATION

By William M. Schuyler
Editor, *The American Year Book*

SUPREME COURT OF THE UNITED STATES

Harlan F. Stone (New York), Chief Justice of the United States, appointed 1941.

Owen J. Roberts (Pennsylvania), appointed 1930.

Hugo L. Black (Alabama), appointed 1937.

Stanley F. Reed (Kentucky), appointed 1938.

Felix Frankfurter (Massachusetts), appointed 1939.

William Orville Douglas (Minnesota), appointed 1939.

Frank Murphy (Michigan), appointed 1940.

Robert H. Jackson (New York), appointed 1941.

Wiley Blount Rutledge, Jr. (Kentucky), appointed 1943.

Officers of the Supreme Court:

Clerk—Charles Elmore Cropley.

Deputy Clerks—Reginald C. Dilli, Hugh W. Barr, Harold B. Willey.

Marshal—Thomas E. Waggaman.

Reporter—Ernest Knaebel.

Librarian—Oscar D. Clarke.

CIRCUIT COURT OF APPEALS OF THE UNITED STATES

District of Columbia Judicial Circuit.—Mr. Chief Justice Stone.

First Circuit.—Mr. Justice Frankfurter; Calvert Magruder (Massachusetts), John C. Mahoney (Rhode Island), Peter Woodbury (New Hampshire).

Second Circuit.—Mr. Justice Jackson; Learned Hand (New York), Thomas W. Swan (Connecticut), Augustus N. Hand (New York), Harrie Brigham Chase (Vermont), Charles E. Clark (Connecticut), Jerome N. Frank (New York).

Third Circuit.—Mr. Justice Roberts; Albert Branson Maris (Pennsylvania), John Biggs, Jr. (Delaware), Charles Alvin Jones (Pennsylvania), Herbert F. Goodrich (Pennsylvania), Gerald McLaughlin (New Jersey).

Fourth Circuit.—Mr. Chief Justice Stone; John J. Parker (North Carolina), Morris A. Soper (Maryland), Armistead M. Dobie (Virginia).

Fifth Circuit.—Mr. Justice Black; Samuel H. Sibley (Georgia), Joseph C. Hutcheson, Jr. (Texas), Edwin R. Holmes (Louisiana), Leon McCord (Alabama), Curtis L. Waller (Florida), Elmo Pearce Lee, Sr. (Louisiana).

Sixth Circuit.—Mr. Justice Reed; Xenophon Hicks (Tennessee), Elwood Hamilton (Kentucky), Charles C. Simons (Michigan), Florence E. Allen (Ohio), John D. Martin (Tennessee), Thomas F. McAllister (Michigan).

Seventh Circuit.—Mr. Justice Murphy; Evan A. Evans (Wisconsin), William M. Sparks (Indiana), J. Earl Major (Illinois), Sherman Minton (Indiana), Otto Kerner (Illinois).

Eighth Circuit.—Mr. Justice Rutledge; Kimbrough Stone (Missouri), John B. Sanborn (Minnesota), Archibald K. Gardner (South Dakota), Joseph W. Woodrough (Nebraska), Seth Thomas (Iowa), Harvey M. Johnsen (Missouri), Walter G. Riddick (Arkansas).

Ninth Circuit.—Mr. Justice Douglas; Curtis D. Wilbur (California), Francis A. Garrecht (Washington), William Denman (California), Clifton Mathews (California), Albert Lee Stephens (California), William Healey (Idaho), Homer T. Bone (Washington).

Tenth Circuit.—Mr. Justice Rutledge; Orie L. Phillips (Colorado), Sam G. Bratton (New Mexico), Walter A. Huxman (Kansas), Alfred P. Murrah (Oklahoma).

UNITED STATES COURT OF CUSTOMS AND PATENT APPEALS

Finis James Garrett (Tennessee), Presiding Judge, appointed 1929.

Oscar E. Bland (Indiana), appointed 1923.

Charles Sherrod Hatfield (Ohio), appointed 1923.

Joseph R. Jackson (Montana), appointed 1937.

Ambrose O'Connell (Iowa), appointed 1944.

UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA

D. Lawrence Groner, Chief Justice.
Harold M. Stephens.
Justin Miller.
Henry White Edgerton.
Thurman W. Arnold.

UNITED STATES EMERGENCY COURT OF APPEALS

Albert Branson Maris, Chief Judge.
Calvert Magruder.
Walter C. Lindley.
Bolitha J. Laws.

COURT OF CLAIMS OF THE UNITED STATES

Richard S. Whaley (South Carolina), Chief Justice, appointed 1939.

Benjamin H. Littleton (Tennessee), appointed 1929.

Samuel E. Whitaker (Tennessee), appointed 1939.

Marvin Jones (Texas), appointed 1940.

Joseph W. Madden (Illinois), appointed 1941.

DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF COLUMBIA

Bolitha J. Laws, Chief Justice.
James M. Proctor.
F. Dickinson Letts.
Daniel W. O'Donoghue.
Jennings Bailey.
T. Alan Goldsborough.
James W. Morris.
Jesse C. Adkins.
Nathan Ross Margold.
David A. Pine.
Matthew F. McGuire.
Henry A. Schweinhaut.

UNITED STATES CUSTOMS COURT

Webster J. Oliver, Presiding Judge.
William J. Tilson.
Genevieve R. Cline.
David H. Kincheloe.
William J. Keefe.
William A. Ekwall.
William P. Cole.
Charles D. Lawrence.

TAX COURT OF THE UNITED STATES

J. Edgar Murdock, Presiding Judge.
Charles P. Smith.
John M. Sternhagen.
C. Rogers Arundell.
Ernest H. Van Fossan.
Eugene Black.
J. Russell Leech.
Bolon B. Turner.
Arthur J. Mellott.
William W. Arnold.
John A. Tyson.
Samuel B. Hill.
Richard L. Disney.
Marion J. Harron.
John W. Kern.
Clarence V. Opper.

UNITED STATES MARSHAL'S OFFICE

United States Marshal.—C. Michael Kearney.

UNITED STATES ATTORNEY'S OFFICE

United States Attorney, District of Columbia.—Edward M. Curran.

Assistants.—John W. Fihelly, Charles B. Murray, George E. McNeil, Cecil R. Heflin, Grace B. Stiles, John B. Diamond, Bernard Margolius, John C. Conliff, Jr., John L. Ingoldsby, John P. Burke, Ray L. Jenkins, Sylvan Schwartz, Joseph F. Lawless, Helena D. Reed, John J. O'Leary, Daniel B. Maher, Timothy P. Ansberry, Andrew J. Howard, John D. Lane, William S. McKinley.

CIVIL SERVICE IN THE UNITED STATES

By Harry B. Mitchell

President, The United States Civil Service Commission

THE MERIT SYSTEM IN WARTIME

The United States Civil Service Commission continued to serve as the central personnel agency of the Federal Government in connection with civilian employments. During the fiscal year ended June 30, 1944 there were 1,982,118 appointments of civilian war workers, with more than 3,900,000 persons examined. Before the war the Commission announced examinations and as a rule was flooded with applications, but during the past two years it has been necessary to use every form of publicity to interest persons to become applicants for positions. The turnover among Federal workers has been high so that much of the recruiting has been for the purpose of securing replacements.

PLACING THE PHYSICALLY HANDICAPPED

Prior to Pearl Harbor the Civil Service Commission began a study designed to utilize the physically handicapped as a source of labor supply. It was recognized that selective placement was necessary and that the less experimentation the better; the right and most effective placement should be made the first time. To do this, job analysis was necessary that went into the greatest detail concerning the job in the light of various physical handicaps. By Nov. 1, 1944 more than 3,500 titled positions, representing many thousands of jobs, were analyzed and an operations manual prepared. The Commission with the aid of the manual placed 41,823 physically handicapped persons in the Federal Service during the period from Oct. 1, 1942 to Nov. 1, 1944.

A special coordinating committee for the placement of the physically handicapped has been created, consisting of representatives of the Civil Service Commission, the Federal Security Agency, the Council of Personnel Administration, the Veterans Administration, and the Veterans Employment Service, to function permanently as a clearing and advisory group in this field. This work is essential and well worth while in the present period of manpower shortages, and for the present and immediate future in the placement of disabled veterans.

PREFERENTIAL BENEFITS FOR VETERANS

Congress enacted into law the Veterans' Preference Act of 1944 which provides special preferences to veterans. Many of its provisions had been in effect for many years in the executive service through Executive Orders based on a general law.

This act provides that preference shall be given throughout the executive branch of the Federal Government, and in the civil service of the District of Columbia, to: (1) men and women who served on active duty in any branch of the armed forces of the United States during the war, or in a campaign or expedition for which a campaign badge has been authorized, and who were separated from the armed forces under honorable conditions; (2) men and women who have been separated from active duty in any branch of the armed forces of the United States under honorable conditions, and who have established the present existence of a service-connected disability or are receiving compensation, disability retirement benefits, or pension administered by the Veterans' Administration, the War Department, or the Navy Department; (3) the wives of veterans, when the veterans themselves are unable to qualify for civil service appointment because of service-connected disability; and (4) the unmarried widows of men who served on active duty in any branch of the armed forces of the United States during a war, or in a campaign or expedition for which a campaign badge has been authorized, and who were separated from the armed forces under honorable conditions.

Some of the specific benefits to which veterans are entitled are:

(1) Persons in group (1), above, are given five points in addition to their earned ratings in civil-service examinations. Persons in groups (2), (3), and (4), are given 10 points. These additional points aid the veteran in reaching the minimum passing mark of 70.

(2) Except for professional or scientific positions paying over $3,000 a year, the names of 10-point preference eligibles are placed first on any civil service list.

(3) Competition in examinations for guard, elevator operator, messenger, and custodian positions is restricted to persons entitled to preference so long as such persons are available; and during the present war and for five years thereafter the President may designate other positions for which competition will be similarly limited to veterans.

(4) Time spent in the military or naval service of the United States is credited in a veteran's experience rating in an examination, provided that the applicant's actual employment in a vocation similar to that for which he applies was interrupted by such military or naval service.

(5) Physical requirements are waived for veterans who are found to be physically able to discharge efficiently the duties of the position to which appointment is sought. In most examinations age, height, and weight requirements are waived for persons granted preference.

(6) Persons granted preference are certified without regard to the state apportionment rule, and without regard to the law limiting the number of members of a family who may be appointed.

(7) An appointing officer who passes over the name of a veteran eligible and selects a non-veteran must file with the Civil Service Commission his reasons for so doing. The non-preference eligible may not be appointed or entered on duty until the appointing officer has received and considered the findings of the Commission as to the sufficiency of his reasons. The reasons of the appointing officer and the findings of the Commission must be furnished by the Commission to the preference eligible, or to his representative, upon request.

(8) In a reduction in force, preference employees whose efficiency ratings are "Good" or better are retained in preference to all competing non-veterans, and preference employees whose efficiency ratings are less than "Good" are retained over competing non-preference employees who have equal or lower efficiency ratings.

(9) A preference eligible who has been furloughed or separated without delinquency or misconduct may request to have his name placed on appropriate reemployment lists. He will then be eligible for recertification and reappointment. So long as there are three or more names of preference eligibles on an appropriate reemployment list, no appointment may be made—except of 10-point preference eligibles—from a list established as the result of an examination.

Many benefits to veterans are provided in the so-called "GI Bill of Rights" enacted by Congress for the benefit especially of veterans of the Second World War. These include educational and other training, loans for the purchase or construction of homes, farms, and business properties, employment of veterans, and readjustment allowance for former members of the armed forces who are unemployed.

TRAINING PROGRAM

The defense and subsequent war program has brought about great progress in the field of training in industry and government. This has included the training of supervisors as well as of employees in less responsible positions. In numerous war plants many complex positions have been studied and reduced to specific elements, and persons trained to perform the individual elements. Thus, shortages in technically qualified persons have been overcome.

According to a recent report of the U. S. Office of Education, more than 80,000 governmental employees—Federal, local, and state—are enrolled in federally-aided training classes in 37 states. The occupations covered include many variations of clerical positions, bus and truck drivers, librarians, inspectors, public health and hospital employees, and a wide range of other occupations.

GROWTH OF THE EXECUTIVE CIVIL SERVICE

The high figure in civilian employment in the Federal Government in continental United States was reached in June 1943, when it was 3,156,953. The number thereafter declined until at the end of October 1943 it was 2,797,513. The number then began to increase reaching 2,941,209 in July 1944. By October it was down to 2,878,947. In September 1944 the total number of paid employees serving outside continental United States was 389,500. The accompanying table shows the number employed at the end of each fiscal year in two-year periods. In October 1944 the total number of women full-time employees was 1,069,295, of whom 147,946 were in the Washington, D. C. metropolitan area. The total number of men and women employed in the District of Columbia area in October was 258,158. Seven out of every ten Federal employees throughout the United States were employed by the War and Navy Departments and by other war establishments.

	June 30, 1936	June 30, 1938	June 30, 1940	June 30, 1942	June 30, 1944
Competitive classified positions....	498,725	562,209	726,827	*	*
Unclassified and exempt positions..	325,534	289,017	275,993	*	*
	824,259	851,926	1,002,820	2,207,754	2,918,287

* Statistics showing the division between competitive classified positions and unclassified positions are no longer available under War Service appointment procedure.

CIVIL SERVICE IN THE STATES

General.—Action seeking to prevent the United States Civil Service Commission from enforcing the Hatch Act provision forbidding government employees to be active in political campaigns was dismissed by the United States District Court for the District of Columbia in an opinion filed in August, 1944. The action, which also attacked the constitutionality of the act, was brought by the CIO Workers of America. The Court upheld the constitutionality of the act.

New Local Jurisdictions.—The advance of the merit system in terms of new areas covered, has been largely at the city and county levels of government. During a period of three years, 82 governmental jurisdictions have adopted merit systems and only two have been abolished. Early in 1944 it was estimated that there were approximately 1,180 governmental jurisdictions throughout the country in which civil service programs of varying scope are in operation. These include 936 cities, 184 counties, the 48 states, the Federal Government, and eight miscellaneous governmental units. Statewide programs are in effect in 21 of the states, and in each of the others one or more state departments are subject to civil service procedures.

Refund Payments.—The United States Civil Service Commission announced that during the year it had certified for clearance the millionth claim for refund payment of retirement deductions on separation from the service. The Federal Commission issued new reduction in force regulations to govern separations for this cause. They outline the methods of layoff, based on factors of retention rights of career employees, veterans preference, efficiency, and seniority.

TVA Salary Policy Employee Panel.—A new development in relations with "white collar" unions in the public service was recently achieved when the Tennessee Valley Authority recognized a "Salary Policy Employee Panel" as the sole bargaining agency for all TVA non-trades and non-labor employees. The three organizations composing the Panel are the TVA Association of Professional Chemists and Chemical Engineers; the TVA Engineers Association; and the TVA Council of Office, Technical, and Service Employees' Unions. This latter group is composed of five unions—public safety service employees, office employees, chemical workers, hotel and restaurant employees, and building service employees.

California.—Merit systems were adopted for the city employees of El Cerrito, and by Ventura County. Action by the state legislature extended civil service to more than three-fourths of the employees of the state prison service. Civil service status was recently acquired by 2,285 employees of the San Francisco Market Street Railway Company when the city purchased the private traction line for consolidation with the city-owned municipal railway. All employees with more than one year of tenure were automatically brought into the classified service under certain residence and citizenship requirements. The Los Angeles Police Department is employing 100 "copettes" to work as desk sergeants and perform investigative work. These women are employed without civil service status for not to exceed the duration of the war and six months, and will release male officers for more arduous work in the department.

Florida.—Sanford adopted a civil service system for city employees subject to ratification by the state legislature.

Kansas.—Through a resolution adopted by the city commissioners the employees of the City of Wichita were placed under the provisions of the Kansas Workmen's Compensation Act.

Kentucky.—Employees of the Louisville Housing Commission were placed under the civil service system in accordance with the rules of the Louisville Civil Service Board.

Louisiana.—The state legislature in 1944 adopted two bills which extend and strengthen existing laws and give greater security to employees. The legislature also extended the merit system to cover municipal employees in the cities of Alexandria and Bogalusa. Policemen and firemen in these cities were already covered.

Michigan.—A retirement system was applied to employees of Wayne County. Detroit authorized a minimum salary of $1,800 for all salaried city employees, excluding only messengers and apprentices. The 15 per cent "cost of living" increase, which originally applied to salaries of $3,000 and below, has been extended to salaries up to $5,000, with those above receiving a flat $750 increase a year. Employees earning more than $3,000 were formerly given a flat increase of $450. An In-Service-Training Institute was opened in the fall to provide extensive training for state employees.

Minnesota.—A classification plan and a salary standardization plan were adopted for Ramsey County.

Mississippi.—The fire and police employees of the cities of Laurel, Hattiesburg, Jackson, Meridian, and Vicksburg were placed under the merit system.

Missouri.—A limited state civil service provision covering employees of the state eleemosynary, penal, and reformatory institutions were adopted by the Constitutional Convention of Missouri, selection for employment to be as nearly as practicable by competitive examinations.

New Hampshire.—As a result of action by the state legislature in 1943, the Governor and State Council adopted in 1944 a comprehensive classification and pay plan for the state service.

New York.—The New York State Civil Service Commission, by action of the state legislature, was given authority to establish uniform standards for all state departments on such personal matters as vacations, sick leave, transfers, resignations, and other conditions of employment. The Legislature passed two laws, one prohibiting discrimination in the rate of pay because of sex, and the other extending the benefits of the minimum wage law to men. The New York Appellate Court unanimously reversed the decision of the New York Supreme Court and held that the Railway Mail Association, a Federal employee union, is a labor organization. No reference was made to the lower court's discussion on unions in civil service. This new decision presumably makes the Railway Mail Association subject to New York civil rights law, which forbids labor organizations to deny membership to persons by reason of race, color, or creed and requires the Association to register as a labor organization.

Texas.—A merit system was adopted by vote for Amarillo, to cover initially the fire and police departments, with provision to extend by ordinance the system at a later date to other departments and groups of employees.

Vermont.—A pension plan for state employees which was authorized by the legislature became operative April 1, 1944.

Washington.—Bremerton has employed a consulting actuary to set up an employees' retirement system. Seattle voters adopted veterans' preference procedures to cover original examinations for entrance, and for reductions in force. The State Personnel Board, beginning on July 1, 1944, allowed 5-point preference to all honorably discharged veterans and 10-point preference to all disabled veterans in civil service examinations. This preference is limited to veterans who have served in the armed forces at least 60 days, who meet the minimum requirements for open competitive examinations, and who attain at least the minimum passing grade.

Wisconsin.—City employees of West Milwaukee were brought under the merit system; and on Jan. 1, 1945 municipal employees of seven cities and two villages were brought under the Wisconsin Municipal Retirement Fund. This makes a total of 28 cities participating in the state system.

PERIODICAL PUBLICATIONS

Army and Navy Journal
1701 Connecticut Ave., N.W., Washington, D. C.

Congressional Digest
2131 LeRoy Place N.W., Washington, D. C.

Congressional Directory
U. S. Government Printing Office, Washington, D. C.

Congressional Record
U. S. Government Printing Office, Washington, D. C.

United States News
2201 M Street N.W., Washington, D. C.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

Academy of Political Science, Fayerweather Hall, Columbia University, New York City.

American Academy of Political and Social Science, 3457 Walnut St., Philadelphia, Pa.

III. THE NATIONAL GOVERNMENT

American Bar Assn., 1140 N. Dearborn St., Chicago, Ill.

American Historical Assn., Library of Congress Annex, Study Room 274, Washington, D. C.

American Political Science Assn., 105 Harris Hall, Northwestern University, Evanston, Ill.

Commercial Law League of America, 111 W. Monroe St., Chicago, Ill.

Honest Ballot Assn., Inc., 27 William St., New York City.

Institute of Public Administration, 261 Broadway, New York City.

National Assn. of Legal Aid Organizations, 25 Exchange St., Rochester, N. Y.

National Civil Service Reform League, 67 W. 44th St., New York City.

Town Hall Inc., The, 123 West 43rd St., New York City.

DIVISION IV

STATE GOVERNMENT

STATE ADMINISTRATION AND LEGISLATION

By David W. Robinson
The Council of State Governments

GENERAL

In 1944, only eight state legislatures met in regular sessions, as contrasted with 44 legislatures which convene in odd-numbered years. The legislatures of Kentucky, Louisiana, Mississippi, and Virginia meet biennially in the even-numbered years; in addition, the legislatures of New Jersey, New York, Rhode Island, and South Carolina meet annually.

These eight regularly scheduled sessions of state legislatures were supplemented, in 1944, by the calling of 33 special legislative sessions in 33 additional states. While this is not an unprecedented number, the purpose of these special sessions of the states' lawmakers was exceptional—the devising and designing of legislative acts to expand absentee voting privileges for men and women in war service, both domestic and foreign. The 33 special sessions of 1944 were limited, almost without exception, to the consideration of that subject matter.

The legislative product of 1944 was reduced, in quantity, from peacetime average. Less than 3,000 bills were enacted into law. The tendency of the war legislature, both national and state, to limit its consideration, discussion, debate, and action to matters of the moment, as affecting the present war period and the immediate post-war necessities for reconstruction and development, continued in the states during 1944. Fewer bills were introduced; controversial matters were, wherever possible, avoided, with bi-partisan consent; legislative sessions were shorter; the quality of the product was improved.

SOLDIER-SAILOR VOTING

No single legislative issue was more highly debated during 1944, in and out of legislative halls, than the questions involved in state absentee voting laws for service men.

The election laws of the states, especially with respect to absentee voting and soldier-sailor voting, vary widely from state to state. It is almost, although not quite, accurate to say that no two states have exactly the same provisions or procedures. It was evident, in the face of the national-state-local election campaigns of 1944, that the statutes of most of the states would have to be considerably amended in order to make it possible for soldiers and sailors to vote.

National policy was clarified by the adoption of Public Law 712, 77th Congress; state laws were amended to facilitate voting among men and women in the armed and related services.

At the time of writing, it is impossible to determine accurately the effectiveness of the Federal-state war ballot program. There are indications, however, that despite many mechanical difficulties, the opportunity to vote was offered to service men everywhere and that, by and large, the return was roughly proportional to civilian voting both in quantity and in party-candidate preference.

WAR AND POST-WAR LEGISLATION

Each of the legislatures which met in 1944 centered its major attention upon problems of the war and anticipated problems of the peace. This legislation falls into three easily definable classifications: (a) legislation designed to protect the service man; (b) legislation designed to benefit the veteran; and (c) legislation designed for post-war reconstruction and development to provide transitional stability from war to peace.

As a preface to this general subject, it should be remembered that, since 1940, Federal-state cooperation in the field of specialized legislation has been a major objective of the Federal Department of Justice and the Council of State Governments. Machinery has been perfected to facilitate the relationship between the various administrative agencies of the Federal Government and the 48 states, particularly in connection with Federal proposals for state legislative and administrative action and state proposals having a material Federal effect and requiring Federal cooperation.

In 1940, five proposals for state legislative action in the field of internal security were developed; in 1941, seven additional proposals were prepared, largely in the field of civilian defense; in 1942, 29 proposals, all in general furtherance of the war effort, were developed. A total of 41 specific legislative proposals of a national defense-war character have been presented to the states by the Council of State Governments as a result of this activity. Enactments by the states have been generous and cooperative. A high degree of Federal-state cooperation has been achieved.

Fifteen of such proposals were presented to the eight states meeting in regular session in 1944, all of which fall into one or the other of these classifications — service-men legislation, veterans legislation, and post-war reconstruction and development legislation.

SERVICE-MEN LEGISLATION

Acknowledgments Act.—A series of four legislative bills aimed at simplifying various legal processes affecting the service man, in his personal affairs, were presented to the states for legislative consideration in 1944. A so-called Acknowledgments Act, to extend the authority of commissioned officers to perform any notarial act for service men, to avoid invalidating a legal instrument because of failure to state the place of execution or acknowledgment, and to incorporate other improvements in state laws dealing with acknowledgments, oaths, and other notarial acts for the benefit of service men and persons out of the country in connection with the prosecution of the war, was approved by the legislatures and signed by the Governors of Kentucky, Oklahoma, Rhode Island, Vermont, Virginia, and Mississippi. Every state in the nation has now adopted legislation of this type.

Conservators for Missing Personnel.—A proposal, briefly titled, Conservators for Missing Personnel Act, which would invest the probate court of a county with the power to appoint a conservator of the property of members of the armed forces of the United States who are reported missing in action, interned in a neutral country, or captured by an enemy, was made law in the states of Kentucky, New Jersey, New York, and Virginia during 1944.

The validity of powers of attorney, executed by a principal who is a member of the armed forces of the United States and who is outside the country on an assignment in connection with the prosecution of the war, was protected by statutes adopted in Kentucky and Virginia.

Will Probation.—A fourth proposal in this group provides a method of proof by which probate courts might admit wills to probate where they could not otherwise be proven because subscribing witnesses are serving with the armed forces, are dead, or are mentally or physically incapable of testifying. This bill was made law in Kentucky, Mississippi, New Jersey, Rhode Island, and Virginia.

Tax benefits were granted members of the armed services by 12 states during 1944, though most of the legislation only extends or broadens 1942-43 legislation when the bulk of state tax laws favoring service men was adopted.

Arizona exempted the income of service men of the armed forces or merchant marine from taxation to the extent of $1,500, and deferred the filing of returns until six months after the war. Delaware will not tax compensation of service men, members of the merchant marine, and Red Cross personnel up to $3,000, including mustering-out pay since 1942.

Indiana.—An Indiana law, the only 1944 enactment in that state dealing with taxation, provides for the exemption of service men from payment of all poll taxes and penalties, and from interest for taxes upon real or personal property. The exemption will be valid until six months after discharge, or 24 months after the end of the war.

Louisiana excluded from gross income $1,500 of the compensation received by persons in military service, and postponed the date returns from service personnel and civilian prisoners of war are due.

Kentucky.—A Kentucky enactment excluded all payments by the Federal Government to beneficiaries of members of the armed forces from state taxation, and exempted proceeds of Federal Government insurance from the inheritance tax.

Mississippi.—Salaries, wages, and compensation received from the Federal Government by members of the armed forces are exempted from the Mississippi income tax.

New Hampshire extended the exemptions from the poll tax originally granted to First World War veterans to include Second World War veterans or their widows. In 1943 the legislature granted a $3,000 property tax exemption to totally or permanently disabled veterans, their wives or widows, and a $1,000 exemption to ex-service men whose property does not exceed $5,000.

New Jersey provided that holders of drivers' licenses may retain these privileges until 180 days after the war, or within three months after honorable discharge without payment of a fee, provided the holders are in uniform.

New York.—In New York, permission to persons licensed as directors, agents, brokers, engineers, and those in numerous other licensed professions to apply within three months after the end of military service for renewal examination without penalty was extended until July 1, 1945.

South Carolina and Virginia.—Persons in the armed forces are exempted from poll and road taxes in South Carolina. Virginia extended all benefits previously granted until June 30, 1946.

VETERANS LEGISLATION

General.—Financial assistance and other benefits were extended to veterans of the present war by six states during 1944, continuing the trend which started in 1941. Veterans' administration and rehabilitation commissions were set up, educational privileges extended, financial assistance provided, and relief from certain kinds of taxes were granted by the legislatures of Kentucky, Michigan, Minnesota, New Jersey, New York, Rhode Island, and Virginia.

Rehabilitation.—Michigan, Minnesota and New York, for example, set up commissions to deal with various problems relating to the rehabilitation of the veteran. The Michigan Legislature set up an Office of Veterans Affairs to afford veterans "advice, direction and assistance through coordination of programs and services in fields of education, health, vocational guidance and placement, mental care and economic security." In addition, a special Veterans' Advisory Committee of eight members—four veterans of the present war—will assist and advise the Governor with respect to problems affecting veterans.

In New York, the Legislature established a temporary commission to deal with veterans' problems, and appropriated $100,000 for use of the commission, which was directed to establish a veterans' service agency to acquaint returning service men and their families with the benefits to which they were entitled. Veterans' affairs in Minnesota have been consolidated in a single department to coordinate and expedite the administration.

Financial Assistance.—In the way of financial assistance, New Jersey established a Veterans' Loan Authority, with an original capitalization of $5,000,000 to guarantee bank loans made to certain war veterans who desire to establish or re-establish themselves in a small business or profession. Michigan created a $1,000,000 veterans' reserve fund to provide hospitalization, medical treatment, education, and such emergency care and assistance as may be necessary during the war period for returning service men. Rhode Island authorized cities and towns to appropriate and raise money to assist families and dependents of members of the armed services, and appropriated funds for the hospitalization of wives and children of men in the armed forces below the grade of commissioned officers who are unable to pay for such hospital care; and Virginia appropriated $65,000 to assist in the rehabilitation of returning veterans.

Unemployment Measures.—Michigan amended its unemployment compensation law to protect veterans from losing benefits to which they are entitled. New York provided unemployment insurance for all state veterans whether they were in covered employment or not prior to their entrance into the armed forces. Rhode Island amended its unemployment compensation act so that veterans receiving mustering-out pay, or service-connected disability payments, will still be eligible for unemployment compensation benefits.

Educational privileges were extended this year by Kentucky, Michigan, New York, and Virginia. Under 1944 Kentucky legislation, veterans of this war are entitled to free scholarships in any state institution of higher learning they choose, for periods necessary to complete selected courses of study, the scholarships to include tuition, fees, rent, fuel, and light, but not board. New York created 1,200 scholarships for returning veterans, each scholarship carrying a maximum yearly stipend of $350 for not more than four years. Michigan and Virginia legislation provided educational opportunities for children of service men killed in action, or who die from other causes during the war.

Tax Exemptions.—Kentucky and Michigan provided certain tax exemptions. Kentucky exempts from classification as a "taxable transfer" soldier allotments, death compensation, or other benefits by the Federal Government to surviving spouse or heirs of persons serving in the armed forces in time of war. Michigan extends the homestead exemption of $2,000 to veterans of this war. Kentucky also exempted from poll taxes veterans who serve at least 90 days in the present war and who were residents of the State at the time of their induction.

POST-WAR RECONSTRUCTION AND DEVELOPMENT

New Planning Agencies.—Public works, industrial development, and veterans' programs received the major attention of the 48 state post-war reconstruction and development agencies in 1944. Three new state planning agencies were created: the Nebraska Development Committee, the Kentucky Post-war Advisory Planning Commission, and the New Jersey Department of Economic Development.

Local Aids.—The past legislative year also brought the evident emergence of a trend, started by New York in 1943, of state aid to local public works blueprinting. Legislation adopted in California, Michigan, and New Jersey provides financial assistance to local governments for the preparation of plans and specifications for post-war public works.

California appropriated $10,000,000, of which $7,000,000 is to be used for plans and specifications and $3,000,000 for site purchases. Assistance will be given local units through the state reconstruction and reemployment commission. Michigan appropriated $5,000,000 to defray one-half of the cost of local public works planning. The Michigan Planning Commission receives and approves the applications of local governments for funds to defray the cost of surveys, plans, and specifications. The New Jersey Department of Economic Development is supervising allocations amounting to $500,000 to local governments for plans and specifications.

Aviation.—State governments generally focused their sight on the new aviation industry as it is expected to expand and develop in the post-war period. More than 1,500 legislative bills in this field were introduced in state legislatures during 1943-44. During the 1944 legislative year, Kentucky, Rhode Island, and Virginia enacted legislation regulating intrastate air carriers. Kentucky also joined more than half of the states in authorizing its highway department to cooperate with the Federal Public Roads Administration in the construction of flight strips along state highways. Connecticut enabling legislation, adopted during 1944, authorizes towns, cities, and boroughs to combine planning and administrative forces in acquiring land and constructing and operating airports. Connecticut and New York also adopted airport condemnation acts to facilitate the acquisition of land for airport development.

Airport zoning legislation was passed in Connecticut, Louisiana, Maryland, Michigan, and New York. The Michigan Act provides for the fixing of standards for any airport in the state by the State Board of Aeronautics; the New York Act authorizes political subdivisions operating airports to condemn or otherwise acquire the right to remove hazardous structures within a specified distance. More than 30 states now have some type of airport zoning legislation.

Fiscal Affairs.—Three proposals relating to state fiscal affairs, as currently handled and related to post-war reconstruction and development, were recommended to the states as a part of the Council of State Governments' overall recommendations to the states on tax and fiscal policy.

Investment of Public Funds.—An Investment of Public Funds Act to enable a state and its political subdivisions to invest surplus funds in war bonds of the Federal Government was found useful and was adopted by the legislatures of New Jersey, New York, Oklahoma, Utah, and Virginia in 1944. Mississippi joined the almost unanimous legislative response of the states to exempt state banks or trust companies from the limitations on them regarding the amount which might be loaned to one borrower where such loan is guaranteed by a Federal Reserve Bank or by any department of the United States Government.

Reserve Funds.—State and local post-war Reserve Fund and Planning acts, so widely adopted by the states during the 1943 legislative sessions, providing for the creation and maintenance of state and local capital reserve funds for post-war construction and for the establishment of planning agencies to develop long-range programs of post-war public works, were expanded by amendment during the 1944 legislative sessions in New Jersey. Additional legislation on this subject was approved by the legislatures of Rhode Island, Virginia, New Jersey and New York.

SOCIAL LEGISLATION

Social legislation in 1944 took on the character of recognizing maladjustments accruing from the war, increasing benefits to the physically handicapped because of higher costs of living, and empowering legislative commissions to undertake studies of anticipated post-war problems with a view to recommending legislative preventive and corrective measures.

A special commission authorized by the New York legislature holds broad investigative powers to study medical care problems; a Youth Guidance Commission, in Kentucky, will survey the field of youth welfare; Kentucky also extended its juvenile court and detention home system for the care of dependent, delinquent, and neglected children; Louisiana appropriated $100,000 for the education of handicapped children; Mississippi increased its aid to dependent children; New York approved legislation simplifying the conditions for eligibility under the state's aged and blind assistance programs. Arizona and California increased appropriations for blind relief, in special sessions.

New and expanded services for children and youth costing more than $1,000,000 were provided by Michigan during 1944, when the legislature passed several bills for the welfare of children.

Rhode Island set up a statewide juvenile court system with far-reaching jurisdiction to help solve juvenile delinquency and other youth problems, under an act passed by the 1944 legislature.

Almost every state took action to increase the rates of pay assigned to public school teachers. Special legislative sessions for this purpose were called in Idaho, Maryland, Tennessee, Vermont, and Virginia.

LABOR LEGISLATION

Very little state labor legislation was placed on the law books by the 1944 legislatures. Kentucky, Louisiana, New York, and Virginia relaxed existing restrictions covering working hours and night work for women and children, as well as provisions relating to the employment of minors. Oklahoma, in special session, suspended the prohibition on Sunday work, in order to speed war production. Virginia enacted a "work or fight" measure, patterned after 1943 legislation in Delaware, Maryland, and South Carolina and providing a penalty for unemployed males, not in school, who refuse employment.

TAXATION AND FINANCE

Income Taxes.—Tax legislation ranging from creation of a unified state department of finance and taxation in New Jersey to enactment of a unique "black market" or "bootleg" tax by Mississippi, featured action by the state legislatures meeting in 1944. Mississippi reduced its income tax rate, as applied to 1944 incomes, by legislative decree under schedules which tax the first $4,000 of taxable income at one per cent, the next $3,000 at two per cent, with a maximum rate of six per cent for incomes above $25,000. New York extended the 25 per cent reduction on its tax on net incomes and capital gains of individuals. Virginia's new income tax legislation relieves nonresidents from filing returns, on a reciprocity principle with other states.

Corporation Taxes.—Several significant enactments in the corporate income taxation field were passed by New York's Legislature during 1944, for the purpose, mainly, of bringing about more uniform treatment of this type of income. Formerly, special low rates existed for the taxation of investment trusts; now all corporations are taxed at the rate of six per cent on ordinary income and three per cent on income from dividends. Special taxation of holding companies was abandoned. Another important feature of the New York legislation is the adoption of the "double allocation formula" in determining income from business in several states. In addition to reducing the rate of income taxation, Mississippi also lowered its corporate income tax rate.

Excise Taxes.—Motor fuel, liquor, and tobacco tax legislation for 1944 centered in six states: Louisiana, Mississippi, New York, South Carolina, Virginia, and Kentucky. Louisiana, Mississippi, New York and Virginia amended their motor fuel tax laws; Louisiana exempted tractors from such tax. New York extended its emergency and additional emergency taxes on motor fuels. Mississippi will hereafter tax motor fuel sales to the Federal Government, except sales to the armed services. Other than extensions of existing emergency taxes, in New York State, on liquor and tobacco, and the new Virginia tax of 35 cents a gallon on wine, no important legislative changes in these tax fields were recorded in 1944.

Sales Gross Receipts Taxes.—The "tax of the year" in state legislation was Mississippi's 10 per cent gross proceeds tax on "black market" sales. The statute imposes a 10 per cent tax on gross proceeds of sales, at retail or wholesale, of all tangible property articles or commodities of any kind, "the sale of which is prohibited by law." The practical significance of this tax lies in the fact that Mississippi is a "dry" state; the new tax is intended to apply in addition to the two per cent sales tax on lawfully sold commodities which has been collected on "black market" or "bootleg" sales. Additional 1944 general sales, use, or gross receipts tax legislation includes a Mississippi statute exempting local governmental units from the two per cent sales tax; extension by New York of the authority granted New York City to impose a gross receipts tax and a retail sales tax at the existing rates; and enactment by Louisiana of a new one per cent sales tax law which bears no expiration date.

Property Taxes.—Legislation in the property tax field accounts for the largest number of 1944 state tax laws of any single tax group. Major changes include action by California, New Jersey, New York, and Virginia in expanding property taxes to include property owned by the Federal Government. By amendment of the state constitution, California may now tax Federal-owned land and other property previously exempt. This action will permit taxation of vast properties controlled by the Reconstruction Finance Corporation or its subsidiaries. New Jersey repealed exemptions granted on property owned by the United States. New York and Virginia provided that property taxable under Federal law shall no longer be exempt from state taxation. Kentucky and Virginia extended application of their property tax laws; several technical amendments in the property tax field were enacted by the state legislatures in 1944.

NATIONAL AND INTERSTATE RELATIONS OF THE STATES

By Frederick L. Zimmermann
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TRENDS IN FEDERAL-STATE RELATIONS

Despite the fact that 1944 was not a legislative year and most state legislatures were not in session, it was a year of outstanding progress for the Council of State Governments because of significant events and trends at the Federal level in Federal-state relations. In the first place, the states through the Council of State Governments, succeeded generally in obtaining recognition by the Congress in various actions of that body of the position and responsibilities of the states in our Federal system. In the second place, there was a continued growth of Federal-state cooperation through the medium of the Federal-state cooperative machinery developed by the Council of State Governments and the Federal-State Relations Section of the U. S. Department of Justice. It will, of course, be realized that these two trends are not mutually exclusive and that the growth of Federal-state cooperation will contribute materially to the preservation of the states' position in the American scene. As a whole, these accomplishments are symbolic of developing cooperative federalism and of the increasing importance of the role of the Council in Federal-state relations.

STATES RIGHTS ISSUE IN THE PRESIDENTIAL CAMPAIGN

The old issue of "states' rights" played a prominent part in the recent political campaign as it does in most American national elections where it has been one of the traditional battle cries of the "outs" against the "ins." Possibly this time it received even more than the usual emphasis in recent election years because of the prominent part played by Republican governors in the campaign. Similarly, in the years since about 1942 the issue has been more prominently featured in congressional debates. While it must be recognized that the cry of states' rights is often raised as a rallying symbol for opponents or proponents of various legislative proposals, its recent prominence must also be attributed to the increasing pressure being brought upon the Congress and the National Government by the states themselves through the Council of State Governments. While the "states' rights issue" serves as a symbol for public reaction against the irritations of centralization, it has also been in large part the surface manifestation of the increasing consciousness and organization of the state governments themselves.

JUDICIAL TRENDS IN INTERPRETATION

There is no need to review here the intensification of the tide towards centralization that has been characteristic of the period since the First World War. As a concomitant of that centralization, the Supreme Court in recent years has definitely tended by interpretation to broaden the powers of the Federal Government and consequently to blur the constitutional lines of demarcation that formerly were regarded as separating the spheres of action of the national and state levels. As has been pointed out in previous articles, the recent decisions of that umpire of federalism seem to have eliminated any broad constitutional check upon the extension of the functions of the National Government. Not since 1937 has an act of the national legislature been declared unconstitutional on Federal grounds. The tenth amendment as a constitutional symbol of legalistic federalism is overshadowed, at least for the present, by the freeing of the national government from any court restraint based on the possibility that national action might infringe upon some state interest.

Yet, on the other hand, judicial interpretation has also been freeing the states from the rigidities of constitutional federalism in that the right of the states to act is not generally denied because such action may mean state entrance into a sphere where Congress might possibly take action. In addition, it should be stated that judicial interpretation has also freed the states, to a large extent, from the more severe of the restrictions formerly found in the due process clause of the fourteenth amendment, once a very serious check upon state regulation and consequently upon state effectiveness. We are evolving from a legalistic federalism to a more flexible and more pragmatic federalism.

In consequence of this trend of judicial interpretation, the forum for decision as to the relative role of the nation and the states in any sphere of activity has largely shifted from the Court to the Congress. Today the decision as to the extent of national activity in any field is made for all practical purposes by the Congress itself. This is illustrated by the recent insurance decision, *United States vs. South-Eastern Underwriters Association,* wherein the Court reversed its previous position that insurance was not interstate commerce and by so doing opened the field to Federal regulation. It is noteworthy that the question as to what role the Federal Government and the states will play in the regulation of insurance is now before the Congress and will, in the last analysis, be determined by that body.

STATE GOVERNMENTS AND CONGRESS

The pressure of the trend toward centralization on the one hand and the retreat of the Court from its traditional role as Federal umpire on the other have resulted in the state governments themselves presenting their case to the Congress. This is a new development in Federal-state relations. From the time when United States senators began to be elected by popular vote instead of by state legislatures, the state governments as such have not been represented in Washington. Even before this shift in electoral method, the United States senators acted as members of the national legislature rather than as representatives of the state government. While it is true that state officials and organizations of state officials often appeared in Washington to present their views over the years, they did not represent state governments as such. Memorials by state legislatures to Congress were regarded as expressions of public opinion rather than as representations by the government of the state and, in fact, received rather cavalier treatment from the national legislature.

The factor that has made it possible for state governments as a group to make representations to Washington relative to matters on which they are in substantial agreement has been the development of the machinery of the Council of State Governments. While it is obvious that the states are not always in agreement and while the Council is not as yet a perfected mechanism for representation of the viewpoint of the state governments, nevertheless the Council has come to be viewed in Washington as the organization that speaks for the state governments. In this capacity it has implemented the growing role of the Governors' Conference as one of the spearheads of the increasing consciousness of the state governments to the threat of centralization.

It is significant that the Governors' Conference, once a comparatively innocuous body, has in recent years been taking a definite stand on issues of Federal-state relations. Moreover, attendance at meetings of the Governors has been constantly improving as the activities of the Conference have taken more definite shape. The Council significantly has followed the suggestion made by the National Association of Attorneys-General in 1942 that a watch be kept on national legislation and that significant developments affecting the states be reported to the state governments. The Council now sends regular reports to the state governments on all proposed measures before the Congress which may concern the states. It also conveys the views of the states to national officials. This organization of the state governments, which in the early stages of its development was interested primarily in projects of interstate cooperation, has today become an important institution in Federal-state relations, in that it provides a means for the representation of the viewpoint of the state governments at the national capital.

THE COUNCIL OF STATE GOVERNMENTS AND COOPERATIVE FEDERALISM

As the agency of the state governments in their effort to shape the formulation of national decisions as to the relative roles of the nation and the states, the Council has followed certain definite policies. In the first place, obviously it has sought to preserve a sphere for state action and initiative where the states can best make and carry out their own policies to meet local needs. In the second place, where, as is so often true, a degree of integration is necessary, the Council has sought to secure integration of parallel Federal and state efforts. In the third place, where an overall national policy is obviously required, the Council has sought to have that national policy administered through the extant machinery of our government: namely, by allocation of the administrative burden among the Federal, state, and local levels in the traditional fashion rather than by direct administration of the entire program from Washington and the establishment of a parallel structure of government which this necessitates. In the fourth place, the Council has combated all attempts to administer national programs by direct devolution from the national to the local level of government, thus by-passing the state governments. It has sought, both with respect to administration and with respect to grants-in-aid, to maintain the position of the states as the intermediate level of government by urging the channeling of national action of this character through the state governments. In a word, the Council has expounded the practice of cooperative federalism and has sought to stimulate the growth of cooperative government in which all levels of government participate as an alternative to one-sided centralization. In so doing, it has urged the effectiveness of the cooperative method and has pointed to some of the weaknesses and the past failures of centralized administration.

Seemingly, the Council's position in this respect is buttressed by some of the governmental tendencies of recent years. While the principal current since the period of the last war admittedly has been in the direction of centralization in government, it has been accompanied by the growth of what has been aptly called cooperative government—the achievement of a program or objective through cooperative action or administration by the various levels and units of government. Some may regard this growth as a subsidiary current in the main trend toward centralized government; nevertheless it has seemed to offer an effective alternative to complete centralization. Its best known exemplifications in the field of national-state relations are, of course, those cooperative undertakings implemented by grants-in-aid from the national government, but examples of its possibilities and accomplishments are manifold. The state and local levels of government seem to afford some very real administrative advantages, not the least of which is the fact that they represent established machinery. Moreover, it is argued they are closer to the people. In any event, the trend toward cooperative federalism has been growing steadily since about the period of the last war.

It is probable that the outstanding progress in cooperation among the states in recent years, following the development of the Council of State Governments and the State Commissions on Interstate Cooperation, is an important factor in the recent growth of this cooperative federalism. While the present struggle to maintain a balance in our federalism finds popular expression under the old symbolism of "state rights," in reality today it represents a demand for an effective federalism in which the state governments will play a responsible part in cooperation with the national government.

Characteristic of the point of view urged by the Council with respect to the form cooperative federalism should follow is a resolution passed by the 1944 Governors' Conference, in which that body urges that certain principles be observed in establishing the administration of peacetime public services involving cooperation of the national, state, and local governments. The resolution lists these principles: (1.) Policies and programs should be developed cooperatively; (2.) All levels of government should participate financially; (3.) General policy and overall programs should be set forth explicitly in the statutes after due consideration by Congress, so that respective parts of the program to be performed by the several levels of government are clearly defined and due recognition is given to the rights and duties of each; (4.) The immediate supervision and direction of such cooperative programs should be in the hands of the states; (5.) Responsibility for the local operation thereof should be given to the subordinate units of government; and (6.) Necessary authority should be commensurate with responsibility and lines of direction should be scrupulously followed.

CONGRESS AND THE SERVICE VOTE

As was pointed out in this article last year, there were many issues before the Congress which were of importance to the states. It is significant that, during the 1944 session, the Congress in the determination of many of these contested issues generally favored what might be called the states' point of view. In many instances this was owing in large part to the activities of the Council of State Governments. Generally, it can be said that the 1944 Congress was notably friendly to the maintenance of the relative position of the states in our Federal system.

One of the most noteworthy storms in the last Congress revolved about the question of the service vote and as to whether a Federal or state ballot would provide the best means for registering the choice of the service electors. While the President asked Congress for a strictly Federal ballot, restricted to presidential and congressional contests, Congress compelled acceptance of the present Federal-state service voting system. While it is recognized that this battle had political ramifications as well as constitutional complications, the end result seems clearly to favor state administration of the service franchise. Only 20 states authorized the use of the Federal ballot. Even so, the statistics paint a fairly clear picture. While approximately 109,000 service voters used the Federal ballot, state election officials have estimated that about 2,800,000 others voted by state ballots. In the light of these facts, it is probable that state administration of the service franchise will continue. In fact, Secretary of War Stimson recently raised the question as to whether the Federal ballot is "of sufficient utility to justify its continuance as a voting procedure in time of war."

STATE CONTROL OF UNEMPLOYMENT INSURANCE

The federalization of unemployment compensation insurance has long been urged by many advocates of centralization. The states on their side have been adamant that unemployment insurance continue under state administration in a Federal-state cooperative pattern. In the passage of the George demobilization bill the states were successful not only in retaining the present status with respect to unemployment insurance, but also in securing the establishment of a guarantee account in the Unemployment Trust Fund from which a state may receive advances, if its reserve should prove inadequate to meet the stresses of the reconversion period. The legislation provided that during the period between June 30, 1945 and July 1, 1947 a state may secure advances for the benefit of its own account in the Unemployment Trust Fund if the balance in such account falls below total annual collections in the higher of the two preceding calendar years. The effect of this amendment will, of course, be to strengthen the position of state administration. Similarly, it seems probable that the employment services which the states turned over to the National Government during the war emergency will be returned to the states soon after the conclusion of the war.

FLOOD CONTROL AMENDMENT

The states succeeded in securing an amendment to the omnibus flood control bill enacted by the 1944 Congress which shaped that measure more to their satisfaction. As originally proposed, the bill seemed to open the way for complete Federal control with respect to waterways. The amendment is in effect a declaration that the policy of Congress is to recognize the interests and rights of the states in determining the development of waterways within their borders and their rights in water utilization and control. The salient features of this amendment are provisions that investigations basic to flood control plans shall be so conducted as to give the affected states an opportunity to consult and cooperate in the formulation of any plan and that in any instance where an affected state sets forth an objection to a plan for irrigation works, those works shall be constructed only upon the express approval of Congress. A provision to the same effect seems certain of adoption in the current Rivers and Harbors legislation.

FORESTRY

Congressional proposals for Federal regulation of the weights and dimensions of motor trucks and for Federal regulation of forests and forestry practices were not adopted and seemingly are not likely to be adopted. In fact, the Congress substantially increased its authorization of funds for forest fire protection grants-in-aid on a matching basis with the states. This has long been urged by state forestry officials. On its side, the Council of State Governments through its Special Committee on Forestry, has prepared and is recommending to the states a program for effective state action in the forestry field. With respect to motor truck regulation, the success of the states in agreeing upon and adopting a minimum flooring of state requirements with regard to maximum weights and dimensions as a war measure seems to have obviated the need for Federal action in this field, at least for the present.

AVIATION

While Congress has taken no definite action as yet, it now seems clear that the states will have a larger share in the regulation of aviation than had been at first envisaged. While undoubtedly, in view of the nature and characteristics of the subject matter, there will be overall Federal requirements with respect to safety and very broad Federal economic regulation, there will be a degree of state administration and enforcement. Seemingly, in addition to safety, the Federal Government will concern itself chiefly with the regulation of commercial air navigation, while the states will have a share in the regulation of so-called private flying. It can be seen that this latter sphere will be of some importance when Federal officials prophesy 400,000 private planes within ten years after the war.

A Federal-state cooperative pattern is also foreshadowed with respect to airports. It is indicated that a national airport construction program is to be organized, developed, and administered in accordance with the same general cooperative pattern that has been used since 1916 in developing the nation's highway system; namely, Federal grants-in-aid and state administration. The Council is now seeking to channel this grant-in-aid program through the state governments rather than direct Federal grants to local units of government.

The present Congressional proposals with respect to the codification of aviation law and the administration of aviation represent a retreat to some degree from the almost exclusive national character of the original plans. Considering the nature of aviation, this is a tribute to the pressure of the states and the effectiveness of the Council of State Governments. On the side of the states, the Council is seeking to integrate the cooperative pattern by securing the adoption by the states of legislation to establish single state aeronautical agencies, to implement state acceptance and acceptable administration of Federal grants-in-aid for airports, to authorize and establish effective zoning by local governments in and about airports and in some states, where procedure is complicated, to streamline the process of condemnation for airport development. To what degree the states will share in the economic regulation of air transportation is not yet clear, although the National Association of Railroad and Utility Commissioners is urging the enactment of a model state act on this subject.

INSURANCE

In the *United States vs. South-Eastern Underwriters Association* the Supreme Court departed from its long line of decisions going back to 1868 to the effect that insurance was not commerce. The Court in this recent case held that insurance was commerce and thereby opened the insurance field to regulation by the Federal Government. The decision immediately raised the question for the states as to what extent state regulation and taxation of insurance was affected by certain existing Federal laws based on the commerce clause, notably the anti-trust laws. In an attempt to preserve the extant state system of regulation and to eliminate the confusions and uncertainties caused by the decision, the National Association of Insurance Commissioners proposed four legislative enactments to the Congress; namely, an expression of congressional intent that insurance remain under state control and amendments to the Federal Trade Commission Act, the Robinson-Patman Act, and the anti-trust acts designed to eliminate the applicability of those measures to insurance. While the struggle is still waging, it seems fairly certain that the states will preserve, in large part, their position with respect to the regulation and taxation of insurance. The President in a recent letter to a congressional committee stated: "This administration is not sponsoring federal legislation to regulate insurance or to interfere with the continued regulation or taxation by the states of the business of insurance." The Administration's position seems to be that there is really no conflict between the anti-trust laws and continued state regulation. As things stand, it seems as though some compromise will eventually be reached which will give some degree of effect to the Federal anti-trust laws as regards insurance while preserving the present sphere of action of the states in that field.

HIGHWAY AID

The Congress modified the traditional formula for the allocation of highway grants-in-aid among the states in the Federal-Aid Highway Act of 1944. The traditional apportionment was based on one-third each for area, population, and mileage. The new legislation continues that formula for the so-called Federal-aid highway system, but sets up two additional categories of highways with separate formulae. One category is farm-to-market roads where the apportionment is based on one-third each for area, rural population, and rural mileage. The other new classification is urban highways where the apportionment is based solely on urban population. The traditional fifty-fifty matching basis is retained, and Federal aid is now extended to the cost of acquiring rights of way, while up to 10 per cent of a state's total apportionment may be used for the elimination of grade crossings. Authorizations of funds for the first three post-war years are divided among the three classifications of highways. The legislation also provides for a nation-wide system of interstate highways. As might be expected, the states were not in agreement on the formula for the allocation of funds, and the Council accordingly took no stand. The final result seems to recognize to some degree the claims of the urban and more industrialized states.

COVERAGE OF MARITIME EMPLOYEES

In 1943 the United States Supreme Court held in effect that in the absence of Federal legislation in the same field the states are vested with jurisdiction over maritime employment under state unemployment compensation laws and that there is no constitutional barrier against such state exercise of jurisdiction. This resulted in a clash during the 1944 session of the Congress between those who advocated a Federal system for the coverage of maritime employees and those who advocated state administration. In this connection state officials have drafted an interstate maritime reciprocal agreement under which the machinery of interstate cooperation would be used by administrative officers of the states in which maritime unemployment may occur. Such agreements would cover services on vessels in interstate or foreign commerce, and would define "employment" so as to determine under which state jurisdiction an employee would fall. This struggle will undoubtedly be continued into the next Congress.

NATIONAL-STATE COOPERATIVE MACHINERY

While, on the one hand, the Council has been concerned with the preservation of state functions in congressional determinations of policy, on the other, it has been engaged in integrating Federal-state cooperation through securing the passage of state legislation that would aid or supplement national policies and administration. Its success in this field has been notable and has been owing in large part to the development of machinery to facilitate the relationship between the various national administrative agencies and the 48 states. There had long been need for an agency of the National Government to coordinate and synchronize the suggestions and proposals to the states of the various agencies of that government. In past years there have undoubtedly been duplications and overlapping and, not infrequently, conflicts in suggestions made to the states by different Federal bureaus. There was no single fountainhead to which the states could refer and ascertain the viewpoint of the National Government.

During the past four years the Council of State Governments and the United States Department of Justice, through its Federal-state Relations Section, have developed the needed cooperative machinery, particularly in connection with Federal proposals for state legislative consideration, and with state proposals which have a material Federal effect and which may require Federal administrative cooperation. The procedure that has been established has proven very effective. The Federal-state Relations Section receives proposals which Federal agencies wish to call to the attention of the states. These proposals are considered by the Council's Drafting Committee of State Officials which considers them and may ultimately clear them for recommendation to the states by the Council of State Governments. The Council of State Governments receives from its special study committees state proposals requiring cooperation by Federal administrative agencies and transmits them to the Federal-state Relations Section of the Department of Justice for reference to the appropriate Federal agencies.

In all, since August 1940, a total of 66 proposals will have been presented, on each of which, through the new Federal-state mechanism, Federal-state agreement has been reached. The progressive institutionalization of that machinery can be traced by reviewing the stages of its development. It began originally out of a joint Federal-state conference on law enforcement problems in national defense in 1940 which was concerned with the problem of internal security as it arose during the pre-war defense mobilization period. In 1941-42, seven new proposals were developed to meet the needs of the war, and in 1942-43 with the prosecution of the war requiring total mobilization 29 proposals of both Federal and state origin were developed and presented to the states. In 1944, with only eight states meeting in regular session, a program of 16 proposals was developed and presented to which there has been lately added a new group of approximately ten proposals. It is significant that the majority of these recent proposals are concerned with post-war matters, and it seems clear that the machinery developed to meet the needs of war will remain in times of peace.

It is possible that the machinery will be changed in form after the war. There seems to be a need for channels of communication to the Congress through participation in some form by that body in a fashion analogous to state legislative participation in the State Commissions on Interstate Cooperation. It is noteworthy that, during the last few sessions of Congress, there has been before that body a resolution which would create a committee on Federal and state relations and would authorize a "complete study and investigation of the relations between the federal government and the government of the several states."

THE STATES AND THE STRATEGY OF POST-WAR FEDERAL RELATIONS

In any consideration of the relative post-war position of the nation and the states in our Federal system, certain factors appear to be already in evidence. From the outset it should be observed that the expansion of the sphere of activities of the National Government did not bring as its concomitant a contraction of state government but rather expansion at the national level has been paralleled by a growth of the functions and activities of the state governments.

Moreover, during the war period the states have been eminently successful in maintaining their position, and state participation in the administration of the selective service program, the rationing program, the motor truck transport program, and the salvage, conservation, migratory farm labor and civilian defense programs has been noteworthy.

In addition, it is important to note that the states are in a good fiscal position to meet the needs of the post-war period. In part this is a consequence of the wartime and post-war fiscal plan and program that was developed by the Council of State Governments and, to a very large extent, put into effect by all the states. The Executive Director of the Council of State Governments summed up the fiscal position of the states in his recent report to the Board of Managers of that body. He pointed out that the states are in better financial condition than they have been at any other time during the past half century and listed the following concise summations: "The states have reduced their overall indebtedness by more than 25 per cent; in general, they have maintained tax rates to assist in the anti-inflation program; they have accumulated within the past two years and have invested in government bonds, more than four billion dollars; and they now have in their unemployment compensation reserves more than six billion dollars."

POST-WAR PUBLIC WORKS

Besides their strong fiscal position, the states seem to be in a good position with respect to the development of any post-war program of public works because of the state plans that have been established. All of the states in accordance with the recommendation of the Council of State Governments have established commissions or agencies on post-war reconstruction and development, and these bodies have been developing programs for the reconversion to peace. The fact that a number of states are granting funds to local units for the preparation of plans at the local level and the fact that state plans are in existence may influence the channeling of Federal grants-in-aid for future public works through the state governments rather than directly to the local units in that the states will have had a large share in the preparation of the plans.

VETERANS AFFAIRS

In addition to public works, three fields of governmental activities will have tremendous importance in the post-war period and will accordingly play a part in the strategy of national-state relations. Two of these are of vital importance—veterans' affairs and social security—and one—the distribution of surplus property—is important as it may affect the states' position in relation to the local units of government. The Council of State Governments has been seeking through the integration of state and Federal proposals with respect to veterans to develop a well rounded and constructive program. The states have made funds available and are organizing their facilities to provide every possible opportunity and care for the returned veteran.

While it is too early to draw any definite conclusions, it seems clear that the states will play a part in the field of veterans' affairs. The fact that the states are now establishing a single veterans' affairs officer in each state to coordinate the administration of veterans' affairs within that state, may eventually shape national administration so that veterans' affairs will be administered below the national level through the states rather than regionally or by direct devolution to the local governments.

SOCIAL SECURITY

With respect to social security, it seems evident that Federal laws will eventually be amended to provide for a grant-in-aid for general relief. This is along the lines of the recommendations of the Council's Special Committee on Social Welfare and Relief some years ago. Eventually the pattern of social security will be broadened and deepened. Clearly the states will seek to continue to play an important part in that field. It is important to note that the Council of State Governments has studied the field of unemployment compensation insurance and has made a series of recommendations to the states for expanding and improving state unemployment compensation systems. This demonstrates again the awareness of the states to the fact that their place in the Federal system will ultimately depend upon the effectiveness of the services they perform.

SURPLUS WAR PROPERTY

The disposal of surplus war property is at the moment in a state of flux from the viewpoint of Federal-state relations. Sometime ago, the then Administrator of the Surplus War Property Administration suggested to the Council of State Governments that it work with his organization in developing an administrative plan for the orderly and effective disposal of surplus war property to the states and their political subdivisions. The Council, through a committee composed of state purchasing agents, worked with the Surplus War Property Administration in the development of an operating plan. The plan provided for the provision of a central purchasing agency in each state to handle directly all purchases of surplus war property for the state itself and its departments and agencies. This central agency would also act as the agent of the Federal Government, on the one hand, and as the agent of the political subdivisions of the state, on the other, in the disposal of such property to those political subdivisions. This procedure obviously was in accord with the usual Council policy. The plan was approved by the Surplus War Property Administration and in principle by the 1944 Governors' Conference. Since that time new congressional legislation has abolished the Surplus War Property Administration and established in its place the Surplus Property Board. Whether the new agency will adopt the plan formulated by its predecessor is not yet known.

DEVELOPMENT OF INTERSTATE COOPERATION

The foundation for the progress in national-state cooperation and the successful achievements in interstate cooperation that, in recent years have introduced a new theme in American federalism, is, of course, the establishment of the machinery for cooperation among the states represented by the Council of State Governments and the State Commissions on Interstate Cooperation. These Commissions, now established in 44 states, are the official negotiating agencies of their respective governments in national-state and interstate relations, representative of both houses of the legislature and of the executive branch, thus assuring integration within the state government in its negotiations with other governments. The rapid extension of Council activities and the increasing effectiveness of its operations are the primary factors in the increasingly successful record of interstate and Federal-state cooperation.

The effectiveness of the Council organization varies in different regions of the United States. The northeast has made the most rapid progress in interstate cooperation, not only because of its more favorable conditions, *i.e.,* easier traveling, stronger states, and greater wealth, but also because the Council has older and deeper roots in this region, having long maintained a regional office in New York which serves as a continuing liaison agency for the northeastern states. The Council has established a regional office in San Francisco to serve the Pacific Coast States. The Washington Office acts as a regional office for the Southern States and the Central Office in Chicago performs the same service for the Middle West.

While the effectiveness of the State Commissions on Interstate Cooperation is spreading slowly from the northeast to other sections of the country, it is still true that in some areas this important state agency has not yet achieved the recognized position nor the prominence it has attained in the northeast. During the past year, however, more of these agencies have been becoming active and more interstate meetings have been initiated by them than has been true in any previous period. The Council of State Governments, established 18 years ago as the American Legislators Association, has grown and expanded until it is the one organization in the country representing the state governments. Within it are affiliated the Governors' Conference, the National Association of Attorneys-General, the National Association of Secretaries of State, and now it is affiliated with the National Conference of Commissioners on Uniform State Laws.

UNIFORM STATE LAWS

In 1940 the National Conference of Commissioners on Uniform State Laws joined its efforts with those of the Council in order that its recommended proposals for uniform laws might be presented to the state legislatures through the machinery of the Council of State Governments. In 1943 that arrangement was made a permanent relationship. The Conference, since it was founded in 1892, has been very effective in the drafting of uniform laws. It had been much less successful in securing the enactment of its model measures by the states owing to the lack of any organic relationship of the Commissioners to the governments of the states. The Commissions on Interstate Cooperation, on the other hand, as official agencies of the states with legislative and administrative members, provide the necessary relationship and have, in consequence, been more effective in securing the adoption of their recommendations.

The record of enactment of uniform laws by the states has reached new highs since the Council and the National Conference combined their efforts. The president of that organization points out that, while the agreement between the two organizations has been in effect only for a four-year period and while the great majority of state legislatures have met in regular session only twice during that time, over 20 per cent of the total of 1,119 enactments by the states of recommendations of the National Conference during its history have been placed on the statute books of the states in this short period. The National Conference has recently sought to concentrate its efforts by withdrawing or declaring obsolete 23 of its uniform acts, reclassifying seven of the uniform acts as model acts and referring five to committees for revision or withdrawal. This has enabled the Conference to center its attention on a limited number of proposals and to present a more concrete program to the states.

INTERSTATE COMPACTS

Widening progress in the enactment of uniform state laws has been paralleled by increasing use of another medium for interstate action—the interstate compact. Despite the fact that provision for interstate compacts is contained in the United States Constitution as adopted in 1789, there were relatively few instances of their use until after the First World War. While the compact was originally used principally as a method for settling boundary disputes, its use has been extended in recent years to such matters as the conservation of oil and fisheries and the supervision of out-of-state parolees. It is interesting to note that it is still being used to settle boundary disputes. The Congress in 1943 finally ratified the boundary established by compact between the states of New York and Rhode Island. Bills are before Congress for the extension of previous consent in advance legislation of that body for the negotiation of various interstate compacts. A new bill would give consent in advance for a compact between Colorado and Kansas as to the division of the waters of the Arkansas River.

During 1944, New York became the thirty-eighth state to ratify the Interstate Parolee Compact, which has been ratified by the largest number of states of any compact in the history of the Union. This compact has successfully met a long felt need for effective control over probationers and parolees as they move from one state to another either before or during their terms of supervision. It has also permitted greater freedom of movement to such persons. Under the terms of the compact the Governor is called upon to appoint an official administrator whose duty it is to administer the compact for the states. These state administrators are now engaged in improving the administrative procedures connected with the out-of-state supervision of probationers and parolees and in strengthening the operation of the compact generally.

FISHERIES

One of the most noteworthy compacts of recent years is the Atlantic States Marine Fisheries Compact. Twelve Atlantic coastal states have now joined in the ratification of that document. Of the states that are eligible only Connecticut, North Carolina, and Florida have yet to join. It is expected that some of these states will ratify the compact in the 1945 sessions of their legislature. The compact established the Atlantic States Marine Fisheries Commission comprised of three representatives from each compacting state. This body is authorized to recommend measures for the preservation of the fisheries to the governments of the cooperating states. Among its recommendations to date are the Uniform Lobster Act, the Uniform Striped Bass Act, the Uniform Fluke Act, the Blue Crab Act, the Uniform Channel Bass Act, and the establishment by each of the participating states of an adequate system of state catch statistics. Many of the states have adhered to these recommendations. It must be stated that this Commission made notable progress during 1944.

Following the report of the International Board of Inquiry on the Great Lakes Fisheries, a body created by the United States and Canada, after initiation of the project by the states through the Council of State Governments, the State Department has been studying the problem of the Great Lakes fisheries. It is indicated that efforts will be made to secure cooperative efforts by the two federal governments, together with the governments of the lake states and the Province of Ontario, in solving the problem of these fisheries.

INTERSTATE COMMISSIONS

The impact of the war with its resultant scarcity of materials has tended to delay projects for the abatement of pollution through the building of sewage or other disposal plants. This factor continues to affect the work of three important interstate commissions—Interstate Sanitation Commission, established by compact between New York, New Jersey, and Connecticut to handle the pollution problems of New York Harbor and adjacent waters; Interstate Commission on the Potomac River Basin, established by an interstate compact among the states of Maryland, Virginia, and West Virginia, and the District of Columbia, in an effort to alleviate the pollution of the Potomac; and Interstate Commissions on the Delaware River Basin, a joint agency of the Commissions on Interstate Cooperation of Pennsylvania, New York, New Jersey, and Delaware, created to seek some solution of the problems of the Delaware River.

In the case of the Delaware notable progress was made with respect to a vexing problem of that river basin when New Jersey in 1944 passed legislation setting up a formula for the allocation of potable waters among the three states of New York, Pennsylvania, and New Jersey. New York and Pennsylvania had already acted. This subject was long a source of interstate dispute, and its final solution marks a very real accomplishment. Adoption of the Ohio River Compact, which has been accepted by most of the states of that river basin, seems to be definitely postponed until after the war.

Another river basin bids fair to become a source of Federal-state as well as interstate dispute. Interstate negotiations with respect to the problems of the Missouri River Basin influenced a presidential message calling for the establishment of a Missouri Valley Authority. The Council of State Governments, which was serving as a coordinating agency in the negotiations among the state governments of the basin, had suggested the establishment of machinery along the lines of the Interstate Commission on the Delaware River Basin. The final outcome is far from clear, since there is not only a possibility of clash between the Federal Government and the states, but a conflict among the Federal agencies involved.

STATE CONSTITUTIONS, REFERENDA, AND INITIATIVES

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GENERAL

The American electorate exercised its power of direct democracy by passing on 147 state questions in 1944, as compared with 124 questions voted on in 1942 and 189 in 1940. One proposed state constitution, 126 constitutional amendments, ten referred bills, and ten initiated bills were placed before electorates of 36 states. Legislative proposals were approved on 88 of 110 constitutional amendments and on seven of ten referred bills, including two of the three acts referred by petition. As usual, measures initiated by popular petition met with less favor than legislative proposals. Of 16 initiated constitutional amendments, only five were approved, and of ten initiated bills, three were approved. However, the proposals submitted by petition were of more controversial nature than were the legislative proposals: the former dealt primarily with broad economic and political questions; the latter, with administrative and technical legal matters.

METHODS OF CONSTITUTIONAL REVISION

In 1942 the voters of New Jersey authorized their legislature to prepare a revised constitution for the state. This proposed constitution was submitted to the electorate in November of 1944; but it was rejected, largely, no doubt, because it had been prepared and supported by bitter opponents of Jersey City's Democratic machine. The popular vote in the several counties tended to vary directly as the vote for presidential candidates, support for the proposal being the strongest in the counties carried by Governor Dewey.

Proposals to change the constitutional amending processes were voted on in two states. Massachusetts adopted a minor change in the form in which initiated and referred measures are printed on the ballot. Maryland voters rejected, for the second time in succession, a proposal to shorten the period for publishing proposed amendments.

SUFFRAGE AND ELECTIONS

Six constitutional amendments and one statutory measure dealt with suffrage qualifications, absent voting, and primary elections. Arkansas modified the poll tax requirement for voting so as to exempt men and women in the armed services, and Alabama extended a similar exemption to war veterans. The Oregon legislature was authorized to make exceptions to the rule of disfranchisement of persons convicted of penitentiary crimes. Two states changed their constitutional provisions regarding absent voting: Wyoming, apparently to insure constitutionality of its absent voting law; and Massachusetts, to authorize absent voting by persons unable to go to the polls because of physical disability.

Evidently in response to the recent United States Supreme Court decision invalidating the white primary laws, South Carolina adopted a legislative proposal to repeal the constitutional provision which directed the general assembly to enact laws for the regulation of primary elections. Oklahoma moved in the opposite direction by adopting a bill for a run-off primary system. In Alabama an amendment that would have required majority party candidates for county offices to be nominated by primary was defeated.

LEGISLATIVE SYSTEM AND MEMBERSHIP

What might have been the most important constitutional amendment before any state electorate was an initiated proposal to establish a unicameral legislature in Missouri. This proposal lost its force, however, when the constitutional convention decided to submit its revised constitution to the people in February, 1945. On realizing that the adoption of a new constitution would automatically repeal a change in the old one, the sponsors of the unicameral plan sought to withdraw their proposal, but their attempt came too late to keep the question off the ballot. The amendment was defeated by a margin of only 37,000 votes.

Two states voted on proposals to establish annual legislative sessions. After a six-year trial of biennial sessions, Massachusetts restored annual sessions and annual budgets, but in California a similar proposal was rejected.

As in other general elections, legislative salaries came before the voters in several states. Legislators will receive increased compensation in New Mexico and Utah, and the California legislature will be given new powers to regulate expense allowances, but Michigan legislators must continue to serve for $3 per day, and those of North Dakota will not be given blanket "expense allowances" of $5 per day.

A minor change in legislative apportionment was adopted in Louisiana, but a Florida proposal to create two new senatorial districts was defeated. Under a Nevada amendment county commissioners are authorized, subject to certain limitations, to fill vacancies in the legislature by appointment.

EXECUTIVE AND ADMINISTRATIVE

More than a score of the proposed constitutional amendments related to the organization and powers of the executive branch of government. An Idaho amendment established four-year terms for state executive officers, but an attempt to make a similar change in the terms of the governor and lieutenant governor of Arkansas failed of adoption. California empowered its legislature to fix the salaries of the lieutenant governor and other state officers at not less than $5,000 per year, and North Carolina authorized its general assembly to provide for the compensation of the lieutenant governor.

Several proposals related to the power to grant pardons and paroles. Oklahoma created a pardon and parole board and authorized the governor, on the board's recommendation, to grant commutations, pardons and paroles. Massachusetts empowered its General Court to prescribe the terms and conditions under which pardons may be granted for felonous offenses, and Virginia extended the powers of its pardon board so as to cover felony cases. In Idaho, where, in 1942, the voters had approved an amendment creating an appointive board of prison control, but had rejected a proposal to abolish the *ex officio* board of prison commissioners, an attempt of the legislature to achieve this second phase of the reorganization was again defeated. The voters of that state refused also to give the pardoning power to the governor, thus leaving it in the hands of an *ex officio* board.

Again, as in 1942, several states adopted amendments which will have the effect of freezing administrative organization into the constitutional structure. Idaho will hereafter have a four-member bipartisan tax commission appointed by the governor and senate, and Arkansas will have a constitutionally established game and fish commission. Louisiana created a department of wild life and fisheries and a forestry commission, and also altered the powers of the department of conservation and the state market commission. North Carolina adopted one amendment whereby the commissioners of agriculture, labor, and insurance become constitutional officers and members of the Council of State, and another whereby ten appointive members will be added to the State Board of Education. Oklahoma adopted amendments which prescribe the organization of two boards of regents: one for the agricultural and mechanical colleges and schools, and the other for the state university. Minor changes were made in the supervision of educational and charitable institutions in Louisiana and South Dakota.

After a somewhat extended controversy over the constitutionality of powers which it has exercised, the Louisiana Board of Liquidation has now been given a clearly expressed constitutional status. This Board, composed *ex officio* of seven executive and legislative officers, is authorized to appropriate moneys and to borrow on the credit of the state, after having received written consent of a majority of the members elected to each house of the legislature. Limits are fixed on the amount that can be appropriated to any one agency, on the amount that can be borrowed in any one year, and on the amount of loans under its authority that can be outstanding at any one time.

JUDICIAL

Of ten proposed constitutional amendments relating to the judicial branch of government, nine were adopted. Perhaps the most far reaching of these amendments is one which authorizes the legislature of Utah to prescribe the number of judges, the terms of office, and the manner of selecting judges of the supreme and district courts of the state. Under this provision the legislature may do away with the election of state judges.

The voters of Maryland approved an amendment to reorganize the court of appeals and the circuit courts, but they refused to authorize the court of appeals to assign circuit judges for limited periods to circuits other than their own. In Ohio, the chief judge of the supreme court was authorized to designate a judge of any court of appeals to fill a temporary vacancy on the supreme court, and in the same state the courts of appeals were granted jurisdiction to review decisions of administrative tribunals.

Changes in the jurisdiction of juvenile courts and of other minor courts were adopted in Louisiana and Florida, and the right to appeal from Louisiana juvenile courts was extended to cover questions of fact on judgments affecting the custody of minor children.

Women in Colorado are hereafter permitted to serve on juries.

TAXATION AND FINANCE

Seventeen proposals were concerned with taxation and general government finance. Washington incorporated its 40-mill overall tax limit in the state constitution, after having imposed the same restriction by initiated legislation for two-year periods on at least six previous occasions. The Florida constitution was amended to provide a two-mill tax limit on intangibles, to authorize a two-mill mortgage registration tax, and to exempt property subject to these taxes from the uniform tax rate law.

California authorized its legislature to exempt from taxation certain properties of charitable organizations, and also granted to service men and war veterans property tax exemptions of $1,000. On the other hand, Louisiana repealed its three-year tax exemption on new homes and improvements, and Idaho changed its exemption law to permit the taxation of property of the United States when authorized by Federal law.

An attempt of the California legislature to make a tax sale conclusively presumed to be valid unless challenged in court within one year was rejected. The voters of Oregon defeated a proposal to establish a state sales tax, and the voters of Wisconsin defeated a plan to levy a two-mill tax for high school aid.

Maine and Washington adopted amendments which will limit to use for highway purposes exclusively the revenues derived from taxation of motor vehicles and motor fuel, but a similar proposal was defeated in Nebraska. North Dakota authorized the highway commissioner, on approval of the governor, to issue more than $12,000,000 of tax anticipation notes, the same to be paid by setting aside for that purpose one cent per gallon of the four-cent gasoline tax. A Louisiana amendment exempts tractor fuels and distillate from the one-cent per gallon fuel tax imposed by the constitution.

The growing importance of the airplane is reflected in amendments relating to taxation and bond issues. Minnesota and South Carolina adopted amendments designed to promote the construction of state and municipal airports. In order to finance the program, the Minnesota legislature was authorized to issue bonds and to levy excise taxes on aircraft fuel and on certain other instrumentalities of air transportation.

An Oklahoma amendment, apparently designed to build up the reserve funds of the state, provides that surpluses which accrue to the state general revenue fund shall be placed in a sinking fund to be used solely for payment of the state's bonded indebtedness, except that when sufficient money has accumulated to pay the outstanding bonds the surplus money may be appropriated by legislature.

STATE AID TO SCHOOLS

In addition to the financial measures enumerated above, several proposals to increase state aid to public schools were voted on in 1944. California adopted an initiated amendment which increased the amount of money required to be raised and appropriated by the legislature for elementary public schools, and Louisiana increased the required *ad valorem* tax for schools from three mills to five. An Oregon proposal to increase the state school fund was defeated, as was also the Wisconsin measure already mentioned, which would have levied a two-mill tax for high school aid.

The Virginia legislature was authorized to set aside for teachers' retirement purposes part of the revenues going to the permanent school fund, and the Missouri legislature was authorized to initiate laws governing the investment and use of the county free public school funds, but the voters of Montana refused to give their legislature control over the apportionment of income from the school fund, and those of South Dakota refused to transfer from counties to a state department the responsibility for investing permanent school funds.

LOCAL GOVERNMENT

More than 30 proposals voted on in the several states dealt with local governments, but almost half of those measures were special in character. Several amendments, both special and general, related to the terms and the salaries of county officers, and others made changes in local tax limits. Although the Florida voters approved a number of special amendments for local government, they refused to authorize their legislature to make exceptions to the rule regarding uniform systems of county and municipal government. Oregon adopted an amendment to authorize county manager government, but Michigan voters refused to permit Wayne County to adopt a home rule charter. A Texas amendment, voted on and approved in two separate parts, authorizes the establishment of retirement and disability pensions for appointive local officers and employees; a Louisiana amendment authorizes municipal airport zoning; a Maryland amendment provides for the establishment of a Baltimore redevelopment commission; and a Michigan amendment removes the restriction on the amount of water that cities and villages may deliver to areas outside of their corporate limits. On the only legislative act referred by petition and defeated, the voters of Washington refused to allow public utility districts to establish joint districts in order to acquire private power systems which extended over more than one district.

WAR VETERANS

Legislation for war veterans met with particular favor among the voters. Eight amendments and legislative measures were approved, most of them by overwhelming majorities. Oregon and California authorized the establishment of funds for loans to war veterans, and Oregon also adopted a measure to provide funds for veterans' educational aid. Colorado adopted a veterans' preference amendment applicable to the state and local civil services, and California adopted an amendment to provide for the reinstatement of public officers and employees who had entered the armed forces. As already mentioned, Arkansas and Alabama liberalized their poll tax laws with reference to members of military forces, and California granted property tax exemptions to veterans.

SOCIAL WELFARE

As might be expected, the social welfare measures submitted to popular vote met with considerable opposition. In spite of the fact that six out of ten welfare measures were defeated, the electorates were inclined to support increased welfare grants. In Louisiana and South Carolina new constitutional amendments removed certain restrictions on the legislative power to provide for aid to the needy and for retirement benefits. An initiated law adopted in Colorado provided for the appropriation of $1,500,000 each year to insure full payment of the old age pensions provided by an amendment adopted a few years ago. By an initiated measure, a number of changes were made in the Nevada old age assistance law. Arizona, California, Oregon, and Washington rejected initiated proposals to adopt the Townsend plan of $60 per month at 60, and Arkansas defeated a proposal to establish a system of state owned hospitals.

LABOR AND BUSINESS

Constitutional amendments, designated as declarations of "right to work" and designed to prohibit closed shop labor contracts, were adopted in Arkansas and Florida, but a similar proposal was defeated in California. Amendments to the state banking laws were adopted by Alabama, Illinois, and Oregon. In Montana an initiated measure to define osteopathy and to liberalize the regulation of the practice was defeated.

LIQUOR AND GAMBLING

Alcoholic beverage is still a subject of popular legislation, but in 1944 only one attempt was made to establish state prohibition by popular vote. This attempt, initiated by petition in Nebraska, was defeated by an overwhelming vote. The voters of North Dakota defeated two liquor proposals: one to give cities and villages express authority to operate liquor stores; the other, to prohibit the sale of alcoholic beverages in places where commodities other than soft drinks and tobacco products were sold. The Oregon legislature was upheld in a referendum vote on an act to prohibit the sale, except in state stores, of beverages containing more than 14 per cent alcohol.

An attempt to repeal the law authorizing and regulating parimutuel betting at dog and horse races was defeated in Arkansas, and in Massachusetts a referred bill exempting certain bridge and whist games from the law regarding the regulation of games was upheld by the electorate.

MISCELLANEOUS

An amendment added to the constitution of Kansas permits the execution of a mortgage or a deed on a homestead by one spouse when the other is insane, and an amendment to the North Carolina constitution abolishes the requirement of a private examination of a wife to establish her consent to the sale of a homestead. In Louisiana, children will hereafter be permitted to enter the public schools at a lower age than formerly, and adopted children will have the same rights to inherit property as have natural children. The voters of Colorado refused to adopt an initiated amendment which would have barred aliens not eligible for citizenship from owning, acquiring, or disposing of real property, and the voters of Maryland refused to repeal a constitutional provision which requires the consent of the General Assembly for all gifts of land to ministers, teachers, or religious sects. The North Carolina prohibition against double office holding was amended to make it inapplicable to notaries public.

CONCLUSION

Because minor changes are made from one time to the next, it is difficult to determine the frequency with which defeated proposals are resubmitted in succeeding elections, but at least ten proposed constitutional amendments that were defeated in 1942 appeared on the ballots in substantially the same form in 1944. A majority of these proposals were again defeated.

ELECTORAL LEGISLATION

By O. Douglas Weeks
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GENERAL

Regular legislative sessions held in nine states and one or more extraordinary sessions called in three of these and 30 others, enacted laws during 1944 affecting elections. Many of the special sessions were summoned for the exclusive purpose of passing or altering statutes providing for wartime absent voting. Thirty-six states, in all, legislated on this subject: twenty-one to amend or supplant previous acts passed during 1941-1943; fifteen to make initial provision for such voting. Only seven states left unchanged enactments originating since 1940.

While the need for simplification of procedure and lengthening of voting time was a contributing cause of much of the amending activity, the greater volume of this sort of legislation was necessitated by *Public Law 277, 78th Congress,* effective April 1, 1944, which drastically amended the Federal act of 1942 by throwing back upon the states the major responsibility for providing absent voting for those in the armed and auxiliary services. The waivers of registration and poll tax were not repealed with respect to voting for Federal offices. Although a Federal ballot was retained, subject to state authorization, its use was recognized by only 19 states. Specific recommendations to the states set forth in the act were followed in some of the subsequent state enactments.

SERVICE VOTING LAWS—SCOPE AND GENERAL ARRANGEMENTS

Eighteen of the wartime absent voting laws enacted in 1944 are effective for the duration of the present war and in most cases for six months thereafter; nine applied only to elections held in 1944; seven are to terminate in 1945, 1946, or 1947; and two are apparently designed to be permanent. Seventeen extended absent voting to all persons in the armed and auxiliary services, 12 only to those in the armed services, two to all absent voters, two to absent voters in war work, and one each to those in the public service and to those outside the United States. Absent voting in both primary and general elections was allowed in 24 states, was confined to general elections in 11, and was restricted to Federal elections in two—Kentucky and New Mexico.

Fourteen states vested the administration of their laws largely in county or town officers, seven assigned the major share to state officials, while 14 provided for joint or alternative responsibility. New York reconstituted her State War Ballot Commission in connection with a complete overhauling of her military absent voting procedure in a new act applying to the general election of 1944. Delaware, Georgia, Iowa, New Jersey, and South Carolina created special state boards with rule-making powers, South Carolina in a later session abolishing her board and transferring its authority to the Secretary of State. Arizona, California, Connecticut, Michigan, and New Hampshire gave similar powers to their secretaries of state.

Primary elections and nominating conventions were moved to earlier dates in 18 states in order to facilitate absent voting in primaries and to allow adequate time for the preparation of absentee general election ballots. Seven September primaries were shifted to July or August; others from early fall or summer to spring or early summer. California consolidated her presidential and general primaries for May 16 and altered dates for the meetings of state conventions and party committees. Many states required earlier deadlines for the presentation of nomination petitions, the filing, withdrawal, and certification of primary and general election candidacies, and the preparation of the general election ballot. Several states provided for reduction in the size and weight and for simplification of the form of the ballot, in some cases vesting broad discretion in state election officials. Connecticut and Pennsylvania made provision for blank write-in ballots with lists of candidates to be sent later if possible.

ABSENT REGISTRATION AND VOTING PROCEDURE—ARMED SERVICES

Registration, although under simplified procedure, was required for those in the armed and auxiliary services by 13 states. Connecticut and Georgia made it a separate step preliminary to requesting an absentee ballot. West Virginia permitted anyone to request registration in behalf of a prospective service voter. An application for registration in several states insured the sending of a ballot without further request. Virginia required preliminary registration of military absentees for state and local but not for Federal elections. Local registration officers or state election authorities in Maine, New Hampshire, New York, North Dakota, Pennsylvania, and Wisconsin were required to make up registration rolls of voters in the armed services on the basis of information to be secured by them on their own responsibility from draft boards, state or Federal authorities, or other sources as well as from individual applications. In the last three states, ballots were to be sent without request to all registrants. California provided for registration either before requesting an absentee ballot or at the time of voting such a ballot. Poll tax qualifications were suspended for those in the armed, auxiliary, or war service in Georgia, Mississippi, South Carolina, Tennessee, and Virginia. Constitutional amendments were adopted in Alabama and Arkansas exempting those in the service from poll tax payment. Registration was technically eliminated for all covered by war-time absent voting provisions in 24 states, a request for an absentee ballot by or for any found to be qualified or the affidavit required on the outer envelope of the returned ballot sufficing for registration.

Requests for absentee ballots, required by most states, were to be addressed to local officers in 20 states, to the secretary of state or state election boards in eight states, or to either state or local authorities in seven states. Nine states required the absent voter to send an application; nine permitted either the voter or a member of his family to do so; 11 allowed anyone to apply in his behalf. Voting was required by all laws except that of Georgia to take place in the presence of a commissioned or non-commissioned officer or a person authorized to administer oaths. Secrecy in marking and provision for returning ballots in inner and outer envelopes was provided for in all cases, the ballots to be returned to state or local election authorities or either. Air mail was specified in many laws. Twenty-five states required the arrival of voted ballots at the proper polling place by election day. Four set a previous day. Seven allowed a day ranging from 15 days to a month after the election.

PRIMARY LEGISLATION

In the 16 states which enacted electoral laws not pertaining to soldier-sailor voting a few important changes were made. To circumvent the 1944 decision of the United States Supreme Court invalidating party "white primary" rules under primary election laws, a special session of the General Assembly of South Carolina repealed in a thorough fashion all statutory provisions having to do with primaries and submitted a constitutional amendment to strike out the provision: "The General Assembly shall provide by law for the regulation of party primary elections and punishing fraud at the same."

Louisiana repealed her provision which dispensed with run-off primary elections for state offices other than the governorship unless required for that office. New Jersey forbade slogans on primary ballots which refer to any person without his consent and required national convention delegate candidates to obtain the consent of a presidential aspirant as a condition to placing his name by theirs on presidential primary ballots. New York made it permissive for state party committees to nominate candidates for statewide office other than the governorship during 1944 and 1945 and thereafter in intervening years between gubernatorial elections, and provided that changes of boundaries of any assembly districts would operate to vacate the seats of state party committeemen elected from such districts. Kentucky and Virginia enacted minor amendments respecting primary candidacies.

OTHER LEGISLATION

Six states altered details of their registration arrangements, and ten made minor changes in election administration, ballot forms, or voting procedures. Massachusetts extended absent voting to the disabled. In a special session, assembled on Nov. 2, 1944, the Mississippi Legislature provided for a supplemental official presidential electoral ballot for the election of 1944 on which appeared a slate of electors nominated by the legislature in the same session, thus avoiding a split Democratic electoral vote for the state.

New Jersey required state installation of voting machines in counties of the first and second class which had neglected to procure them. The General Assembly of Indiana in a November special session created a commission to investigate election frauds, corruptions, and false registrations and vested it with ample powers. Various constitutional and legislative referenda were initiated, approved, or defeated, the most important in addition to those mentioned above affecting terms of elective offices both state and local in Arkansas, Florida, Illinois, Michigan, Missouri, and Montana. Legislation dealing with local elections was enacted in Michigan, Mississippi, and South Carolina.

COUNTY GOVERNMENT

By Virginia Russell
Council of State Governments

LEGISLATIVE AND CONSTITUTIONAL CHANGES

Since only four of the 48 state legislatures met in regular session in 1944, little new legislation regarding counties can be reported. Administratively, however, the trend toward better government at the county level has continued. Improved accounting, auditing, budgetary and tax procedures were recommended or established in many counties. The 1943 South Dakota Legislature provided for the consolidation of two of the state's five unorganized counties, and enacted a statute enabling county boundaries to be changed, if a town or city extended into two or more counties, upon petition of 15 per cent of the electors of such a town, and upon a favorable majority vote of the total electorate.

The new Missouri constitution, to be voted on Feb. 27, 1945, provides for "the voluntary consolidation, dissolution and partitioning of counties by the voters themselves," and further provides that two or more counties, not in excess of ten, may cooperate in the performance of county services.

The New Mexico Taxpayers' Association has suggested reducing the number of counties in that state through the consolidation of a county of low taxable wealth with a wealthier neighboring county.

Consolidation of county and municipal functions in the field of health, welfare, and the like is continuing to eliminate duplication of services, and a number of planning activities by joint county-city agencies have been begun.

While a constitutional amendment in Florida authorizing the legislature to establish a uniform system of county government was defeated, the New York legislature created a temporary commission "to study, investigate, codify, revise and make uniform, so far as practicable, existing laws relating to counties." (Chapter 407, New York Laws of 1944.)

The new Missouri constitution also contains a provision which authorizes four classes of counties, permitting a simpler and less expensive form of government in the smaller counties of low assessed property valuation. Under the old constitution, all Missouri counties are in one class, and have the same form of government.

POST-WAR PLANNING

Post-war planning has become an important part of the county function. Wisconsin reports that about 50 counties have made definite plans for needed post-war work on county trunk highways. Surveys are being made and plans considered for the post-war employment of war veterans in several counties in Tennessee, and the Hamilton County, Iowa, Post-war Planning Board is circularizing service men and women regarding their plans for education and employment after the war.

The State Association of County Commissioners of Pennsylvania is conducting regional conferences on post-war planning to prepare plans for needed public construction to provide employment during the industrial reconversion period. Beaver County, Pennsylvania, commissioners, who were authorized to conduct a comprehensive physical, sociological, and economic survey for that county, have received a report recommending a program of public and private expenditure of more than $50,000,000, providing 3,000,000 man-days of employment over a five-year period.

MERIT SYSTEMS

Contra Costa County, California; Hunterdon County, New Jersey, and Ventura County, California, adopted merit systems in 1944, according to the Civil Service Assembly of the United States. Although the 1943 session of the Wisconsin Legislature enacted enabling legislation permitting counties to establish civil service and retirement systems, no county in that state has yet established such systems.

On July 1, 1944, all counties in New York State were operating under Civil Service. A law enacted in 1941 made application of merit systems to all local units of government mandatory by that time, but allowed the counties to determine whether they would select direct administration of the system by the State Department of Civil Service, establishment of a county Civil Service Commission, or appointment of a county personnel officer responsible to the State Civil Service Department.

Civil Service in Fulton County, Georgia, established by Georgia Laws of 1943; in Ramsey and St. Louis counties, Minnesota, authorized by the voters in November, 1942; and in Wayne County, Michigan, San Mateo County, California, Warren and Burlington Counties, New Jersey, also authorized by the electors, is now in operation.

At its 62nd annual meeting, the National Civil Service Reform League adopted a report declaring that it will be necessary to make government service more attractive in salaries, in opportunities for advancement, and in reward for unusual capacity and accomplishment if persons of unusual talent and training are to continue to serve after the war. The League points to two threats to the merit system: (1) the clamor for political patronage, and (2) the zeal of politicians vying for the soldier vote by securing laws virtually turning over all government places to war veterans, without considering the demoralizing effect these proposals may have on the efficient management of governmental agencies. (*National Municipal Review,* June, 1944.)

OPTIONAL FORMS OF COUNTY GOVERNMENT

In 1943, the Wisconsin Legislature, through the adoption of Joint Resolution #4A, repealed the clause in the constitution providing for uniformity of county governments, and authorized the legislature to provide for optional forms of county government. This measure will be up for consideration at the 1945 session, and if again adopted, must be ratified by the state electors in a statewide election.

The new Missouri constitution would allow any county whose population is over 85,000 to draft a charter for its own government. The Missouri General Assembly, under the new constitution, could provide alternate forms of government for any class of county and give the voters in any county the right to choose between their present form of government and the alternative forms.

COUNTY MANAGER PLAN

Oregon.—In Oregon, House Joint Resolution #3, amending Article VI of the constitution, was adopted by the voters at the Nov. 7 election. This amendment authorizes the legislature to prescribe the method and means whereby any county, by majority vote of the electors therein, may adopt a county manager and commission form of government. It is expected that the 1945 Legislature will enact the law providing for this form of county government. Unofficial vote on the amendment, as reported by the *National Municipal Review,* was 172,214 to 152,192.

Virginia.—Warwick County, Virginia, on Sept. 19, 1944, adopted the county manager plan by a vote of 1389 to 902, thus becoming the fourth county in Virginia to approve this form of government. Through the combination and elimination of county offices, it is expected that a saving of some $23,000 will be effected under the new plan, and it is anticipated that further savings will result from the more efficient and economical management of county affairs made possible by this plan.

Henrico, another Virginia county having county manager government, had brought about 42 per cent more services at a 3 per cent reduction in cost, but a decree of the Virginia Supreme Court of Appeals handed down in June, 1941, becoming effective in January, 1942, reduced the county's area to approximately 240 square miles and the population to 30,000 persons through annexation of its richest tax-yielding area to Richmond. A tax readjustment plan has been recommended to bring the county budget back into balance by the end of the war, but even with this plan, which raises the rates from $1.08 per $100 to $1.30 per $100, Henrico will remain among the five counties in Virginia with the lowest tax rates. (*Richmond News Leader,* "Model County Faces Problems," Julian Cary Houseman, 1944.)

Montana.—R. R. Renne, President of Montana State College, in an article entitled, "Rural County Can Be Efficient," published in the October issue of the *National Municipal Review,* reports that the results achieved with the manager plan in Petroleum County, Montana, after 18 months of operation, while not spectacular, are significant, in that they demonstrate that the manager plan can operate effectively in small rural counties, as well as in larger urban counties. President Renne indicates that the costs of general administration have been reduced more than 25 per cent under the manager system, and that additional savings are anticipated when further experience has been secured. The debt liquidation record of the county is excellent. Under the Petroleum County manager plan, the voters elect a board of three commissioners and a county attorney. The manager is appointed by the commissioners, and is charged with the responsibility of appointing workers employed to operate the county government.

Although the fine record of debt reduction and savings is owing in part to an increase in taxable valuations and reduced tax delinquency accompanying improved economic conditions during the war, President Renne believes it is also partly the result of reduction in governmental expenditures made possible by the manager form of government. Petroleum County, he concludes, provides an excellent example of a form of government well adapted to the needs of the small, rural county.

Maryland. — A council-manager charter for Montgomery County, Maryland's third largest county which adjoins the District of Columbia, was defeated at the Nov. 7 election by a vote of 15,683 to 14,048, despite a vigorous campaign for its adoption by citizens groups all over the county. The charter, drafted by a charter board, provided for a county council as the local legislative body, to be elected on a non-partisan ballot. The council had power to appoint a manager who, in turn, had power to appoint and remove most department heads, with the approval of the council, and subject to merit system regulations.

The council had the power to make, repeal, or amend local laws, and the state General Assembly was forbidden to pass further local laws on matters covered by the county's home rule powers. Three citizens chosen by the council constituted a personnel board responsible for regulations governing the classification of positions, qualifications for appointment, salary and wage scales, and other personnel matters in the administration of the merit system. A modern budget system was also included in the charter.

Under Maryland law, this same charter may not be re-submitted to the electors of the state. Acquiring a charter will necessitate starting at the beginning with the circulation of petitions, the creation and election of a new charter board, the drafting of a new charter, and a campaign for its adoption. The feeling of Montgomery County citizens in favor of council-manager government for their county seems to be that they will continue their battle for the plan despite strong and active opposition from the political machine in power.

HOME RULE IN WAYNE COUNTY, MICHIGAN

The home rule amendment for Wayne County, Michigan, was again defeated in the 1944 election by a vote of 851,926 to 638,876. Several reasons have been advanced for its defeat, including preoccupation of the voters with national and international issues, the elimination of partisanship in the county political setup, and the mandatory requirement of the amendment that the charter contain certain preconceived provisions, rather than leaving it optional for the voters of Wayne County to pass upon the charter provisions, as is done in home rule city charters. Both rural and urban opposition was vigorously organized in the 1944 campaign, and overcame the favorable majority for the amendment in the Detroit vote of 282,744 for, to 248,471 against.

The amendment authorized election of a commission to prepare a so-called home rule charter, further requiring that the charter must provide for a chief executive and legislative body. Not more than two-thirds of the legislative body were to be elected from the City of Detroit, outside city members to be elected on a district basis. Although the amendment did not use the term "home rule," such rule was implied in the provision, "Wayne County shall, under such charter, have power and authority to pass all laws and ordinances relating to its county municipal concerns."

Reports of the campaign indicate that the main issues were sidetracked. The county reformers had difficulty securing adequate funds, but a third effort to reorganize the government of Wayne County has been proposed by the Detroit News. Citizen leaders agree that the educational publicity of the past two campaigns have enhanced the possibility of ultimate success.

HOME RULE IN TENNESSEE

There has been continued agitation in Tennessee by citizen groups for a greater degree of self rule for local governments, and, conversely, for state supervision of local finance. Proposals containing these provisions probably will be submitted to the 1945 Legislature.

PERIODICAL PUBLICATIONS

Book of the States, The
Council of State Governments, 1313 E. 60th St., Chicago.
National Municipal Review
299 Broadway, New York City.
Public Works
310 East 45th Street, New York City.
State Government
Council of State Governments, 1313 East 60th St., Chicago.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Legislators Assn., 1313 E. 60th St., Chicago.
Civil Service Assembly, 1313 E. 60th St., Chicago.
Civil Service Forum, 2 Lafayette St., New York City.
Council of State Governments, 1313 E. 60th St., Chicago.
Institute of Local and State Government, 3437 Woodland Ave., Philadelphia.
National Assn. for Constitutional Government, 716 Colorado Bldg., Washington, D. C.
National Civil Service Reform League, 67 W. 44th Street, New York City.
National Municipal League, 299 Broadway, New York City.

DIVISION V

MUNICIPAL GOVERNMENT

NEW YORK CITY AFFAIRS

By Theodore H. Skinner
Assistant Professor, New York University

THE FUEL PROBLEM

As in previous years, the City of New York found itself confronted with special problems created by the nature of the war economy which required the cooperation of state and Federal authority in their solution. Supplies of food and fuel were not entirely adequate to meet normal prewar demands. Owing in part to the controversy between the coal miners and operators in 1943, a rather serious shortage of coal developed. Under the direction of Edwin A. Salmon, acting as Fuel Commissioner, special depots were set up by the City to take care of the needs of those who could not be accommodated by their regular dealers.

THE MEAT SHORTAGE

Food supplies, while not abundant, presented no real problem until the end of the year. In December, however, a serious shortage of meat developed. Claiming that they were unable to purchase from the slaughtering houses except at "black market" prices, and squeezed between these higher costs and the vigorous enforcement of retail price ceilings by the O.P.A. and the Department of Markets, the retail butchers and the delicatessen proprietors threatened to close down completely unless adequate measures were taken to cut their costs or they were permitted a fair profit-making price. After conferences with the Mayor who, in turn, brought pressure to bear on the O.P.A., it was agreed that no concerted boycott would occur, but a large number of stores were closed or inoperative by reason of lack of supplies for several days.

The basic trouble was the absence of any price limitation on the producers of meat "on the hoof," owing to the success of the farm and stockmen's lobbies at Washington. At the beginning of the New Year, the O.P.A. imposed the requested restrictions on the producers, but the acute shortage of meat continued and will probably exist for some considerable time. As in so many similar situations arising out of war conditions, the efforts of the Mayor to handle the problem must be largely confined to attempts at influencing the Federal authorities to act. The Mayor directed the Department of Markets to cooperate with the O.P.A. in policing price ceilings, and set up a special War Emergency Court to handle violations; despite these efforts the cost of food and other necessities continued to rise.

COMMERCIAL RENT QUESTION

Rent control of residential property was imposed in 1943 by Federal statute which, however, left business property untouched. The result was a noticeable increase in commercial rents, which threatened to drive many businesses from the city and interfere with the war effort. As the problem appeared to the O.P.A. to be largely local, that agency refused to interfere. Repeated attempts were made to obtain relief through the state legislature, but to no avail. Finally a joint legislative committee was appointed to investigate conditions in the metropolis, and its hearings revealed cases of increases running from 60 to 200 per cent. The result of the inquiry was the introduction of bills in the new legislature limiting commercial rents to not more than 15 per cent above the level of March 1, 1943, and legislative approval of some such form of relief is to be expected.

RELIEF AND CHILD WELFARE

As in 1943, the relief load caused by unemployment remained at the irreducible minimum. The number of dependent children on the relief rolls continued to decrease, but was offset by a considerable increase in those needing attention because both parents were working. Accordingly the amount budgeted for such cases was approximately doubled in 1944. To meet the needs of older children and to combat juvenile delinquency, the city increased its expenditures for child guidance activities and for supervised playgrounds and community centers. Special citizen coordinating councils were organized in 81 police precincts to cooperate with the police in the prevention of juvenile delinquency and the Juvenile Aid Bureau of the police department was placed on a 24-hour operating basis. Additional effort and expense will be needed to meet this particular problem until the war ends.

FIRE AND POLICE DEPARTMENT PERSONNEL PROBLEMS

Although the impact of the draft on the city's employees was not as great as in previous years, selective service calls and the transfer to war jobs continued to deplete the personnel available for municipal operations. This was especially noticeable in the subway system, and in the police and fire departments. To offset the shortage in the latter agencies, the Mayor ordered overtime work, with a "cost of living bonus" as compensation for the extra effort. Members of both departments at first refused to agree. After many conferences with the Mayor the police agreed to accept the plan, but the firemen remained adamant and took the matter to court, alleging that the Mayor was attempting an illegal interference with the three-platoon system established by the legislature. The matter was in the courts for the better part of the year, finally resulting in a decision for the city.

In addition to the bonuses offered to the police and firemen, similar temporary increases were granted to the majority of other civil servants, $240 to those earning $4,000 or less, and $350 to those above that level. To offset the additional expense to the city, employees were required to work overtime, drastic limitations were placed on vacations, and disciplinary proceedings were ordered instituted in the case of any employee violating the ban on dual job holding. This last met with sharp dissent from certain employee organizations, and suits to test the validity of the ban were pending at the close of the year.

One unfortunate aspect of the extra work directive was a large increase in retirement applications by members of the police department. They are permitted to retire after a much shorter period of service than other municipal employees, and the courts have held that no emergency needs of the city may limit the exercise of their rights in this respect. The Mayor was eventually able to prevail upon the police to place a voluntary limit on the number of retirement applications presented each month, but by the end of the year the department was nearly 3,600 men short of its authorized strength.

Despite the cost of living bonuses noted above, the administration was subject to considerable pressure for additional increases from the Transport Workers' Union, other organizations of municipal employees, and some members of the City Council. In view of the Mayor's determination to reduce the tax rate on realty, their efforts were ineffective.

MATTERS RELATING TO THE MERIT SYSTEM

Certain items will be of special interest to those interested in securing an effective merit system for the city. Sanitation Commissioner Carey, in order to obtain regular competitive status, resigned as head of the department, to be appointed an Assistant Superintendent of Land Fills, for which he had taken an examination. He was then given leave of absence from this position, which already had an incumbent, and was then reappointed as Commissioner. His status would seem to be identical with that of a number of members of the fire department. In order to forestall the expiration of a promotion list, the Mayor promoted a number of those on the list, although there were no vacancies to which such advancement might be made. This procedure was set aside by the courts. The courts also have finally invalidated the attempt of Philip Hines to secure a pension from the city after having resigned while under charges of irregularities. His appointment by the Mayor to a temporary job in the Department of Hospitals, as a means of reestablishing his pension status, was held to be unauthorized. All three cases indicate flaws in the civil service laws which demand attention.

THE MAYOR AND THE SCHOOL SYSTEM

An interesting highlight of the year was the report of a special investigating committee of the National Education Association regarding the relationship of the Mayor to the Board of Education. While the Mayor is empowered to appoint the members of the Board, the theory of our education law is that the Board shall act independently as to policies, personnel, and expenditures. The city is required to contribute a specified amount of each tax dollar to the school system, but has contributed a substantial amount in excess of this requirement for many years. This has enabled the Mayor to exert a certain amount of control over the Board's decisions which eventually roused such criticism that the N.E.A. instituted an investigation by a committee of non-resident educators. The committee reported an increasing, and to its members, highly undesirable interference by the Mayor with the school system, and recommended that the required city contribution be increased so as to eliminate the financial club which they asserted the Mayor had been utilizing to implement his demands. (For details, see THE AMERICAN YEAR BOOK, 1943.)

THE PROBLEM OF STATE EDUCATIONAL AID

The Board has also been under increasing attack from parent and civic organizations, as well as some of the teaching staff, for withholding essential information regarding costs and operations from the public, and for continuing the use of oversize classes. Some of these attacks may be discontinued if the city benefits by proposed changes in the formula for allocating state aid to the local school systems. At present this formula is entirely inadequate, having originated at a time of continually increasing registration, whereas the trend throughout the state is now toward lower enrollment. The Governor has directed an inquiry into the entire problem of state educational aid, and the state's contribution may well be enlarged by the 1945 legislature.

CHANGES IN STATUS OF CUSTODIAL WORKERS

The close of the year was marked by an abortive attempt to strike on the part of the school custodial workers (janitors). It has long been the custom for the city to farm out the janitor work in the schools to head custodians who, in turn, employed the necessary help at wages determined entirely by themselves. Court decisions have recently held that the custodial workers must be treated as part of the classified service, but gave the city time to effect the required changes in status and budget procedure. The strike was announced as designed to compel speedy action by the city, but proved ineffective and shortly collapsed.

EDUCATIONAL PERSONNEL

Protagonists of careers for women will be interested in the election of Mary E. Dillon as the new president of the Board of Education, a woman thus becoming, for the first time, head of the largest educational system in the world.

Teachers' organizations have been vehement in denouncing the administration for continuing the use of substitutes instead of appointing to regular teaching positions, a measure designed to cut educational costs. As a result of the criticism a sizable number of full-time appointments were made, while substitute salaries were increased on the average $1.25 per diem. Because of the reluctance of the Board to appoint from the eligible list, annual extensions of the list promulgated in the early thirties have been regularly pushed through the legislature. In 1944 a taxpayer's suit, brought with the tacit support of the Board, was started to test the validity of such extensions. Affirmation by the Court of Appeals of the lower court verdict upholding the taxpayer may well lead to definite changes in personnel policy in the schools.

APPROPRIATIONS FOR CITY COLLEGES

Considerable controversy was created by the Mayor's announcement that the law compelled a 26 per cent cut in appropriations for the city colleges to correspond with a drop in their attendance. It was pointed out that a large part of the work of the college was devoted to the needs of the war emergency and reflected no decrease in the work of the staff. As a result the Board of Estimate felt it necessary to pass a resolution promising the restoration of the cut, should the need appear at the opening of the fall session.

THE 1944 ELECTION

Aside from judicial offices, no important positions in the city government were at stake in the November election, but a number of items in the electoral picture may have considerable bearing on the 1945 municipal contest. As a result of the publicity given to the influence of Frank Costello, alleged slot-machine "czar," in the nomination of Supreme Court Justice Aurelio, a movement developed to oust Michael J. Kennedy as leader of Tammany Hall. As a result Kennedy was displaced by Edward V. Loughlin, who received 14 2/3 votes to 9 11/12 for former Representative James Fay. During the year further rumblings of revolt were heard, based on charges that the new leadership was still subservient to Costello, but changes in the composition of the Tammany executive committee, giving additional voting power to the Loughlin faction, served to prevent any further shift in control.

Of considerable importance to the 1945 municipal campaign was the increase in the political power of Congressman Vito Marcantonio, originally a protege and generally a supporter of Mayor LaGuardia. Now the dominant figure in the American Labor party as a result of victories in the March primaries, Marcantonio demonstrated his political strength by invading the Republican and Democratic primaries and winning the Congressional designation in both over the party organization choice. Various claims of fraud and collusion were raised, but the November balloting found the Representative unopposed in his bid for reelection. In similar fashion, with Marcantonio's support, the Rev. A. Clayton Powell won all three nominations in the 22d Congressional District, becoming the first member of the Negro race to represent the city in the House of Representatives.

POLITICAL PARTY FACTORS

The year 1944 marked the parting of the ways for the so-called right and left wings of the American Labor Party. The Communist Party had ceased to exist as a separate political organization, and a large part of its membership moved into the Labor primaries where their greater cohesion served to turn the scales against the right wing candidates. The result was a split, with the Rose-Dubinsky faction organizing a new Liberal Party, leaving Marcantonio and Connolly in control of the A. L. P. Both groups gave their support to the Democratic candidates for President, Vice President, and U. S. Senator, while in the remaining contests they split their support between the candidates of the major parties, or named men of their own choice. The final election figures showed the American Labor Party polling better than 390,000 votes in the city, with the Liberals showing a total of nearly 305,000. This would seem to indicate that the Democratic organization can have but slight hope of electing a Mayor in 1945 without support from at least one of these minor party groups, unless opposition to the Democratic ticket is greatly divided. Since the election, the Liberal Party leaders have indicated their intention of further strengthening their organization. While generally sympathetic to the present city administration, they are reserving decision as to where their support will go in the Mayoralty campaign.

The effect of the minor parties on the local situation was further emphasized by the defeat of the veteran minority leader of the state senate, John J. Dunnigan, the margin of victory for his successful Republican opponent being the vote for the Labor candidate. Similarly, another veteran Senator, Joseph Kinsley, lost by a narrow margin to Lowell H. Brown, who needed the 20,000 supporting Labor ballots to win, while in the contest for Kings County judge, a Democrat with Liberal Party endorsement defeated the designee of the Republicans and Laborites. A breakdown of the vote in the Senatorial contest between Robert Wagner and Thomas J. Curran, who has been frequently mentioned in organization circles as the next Republican nominee for Mayor, adds further proof of the strategic position of the two minor parties.

THE ELECTION RESULTS

Because of the departure from the city of the many service men and those going into war industries elsewhere in the country, it was expected that there would be a considerable drop in the number of votes cast. As a result of strenuous efforts by all the parties and other organizations, the registration exceeded all expectations, and caused considerable confusion because the Board of Elections was not prepared to handle such a throng. Total registration figures for the five boroughs were 3,216,613. The addition of some 375,000 war ballot applications brought the total to nearly 3,600,000, a larger figure than that for 1940. A continued drive to get out the vote, combined with the interest always generated by the presidential race, resulted in a total vote, including service ballots, of nearly 3,275,000.

One result of the election has been the renewal of interest by both major party organizations in changes in the election laws which would require the minor parties to nominate their own candidate and forbid them to designate as their own the nominees of either major party. It is doubtful if the change will actually take place, however, as neither party is quite certain that it would stand to benefit by such provisions.

Contrasted with the stir over the Aurelio nomination in 1943, the 1944 Supreme Court contest was very quiet. Two appointees of the Governor, serving interim assignments on the bench, were defeated by James B. M. McNally and Irving Levey, the Democratic nominees with both Liberal and Labor Party support. Here again the minor party vote was the determining factor.

THE BATTLE OF THE BUDGET

In 1943, despite ruthless pruning of departmental requests, the Mayor was unable to avoid a ten-point rise in the tax rate. In 1944, surpluses resulting from the pessimism of the previous year and the expectation of increased revenues enabled him to submit a budget showing a $21,000,000 saving to the real estate taxpayer and a ten-point cut in the tax rate. The Mayor took the occasion to emphasize again the fact that a still larger tax cut for real estate could have been made if the state legislature had been willing to comply with his repeated requests for additional taxing power or a return to the city of a part of the surplus funds accumulating in the state treasury. While having little effect on the Governor or the legislature, the Mayor's continued demands along these lines serve to emphasize the fact that the discretion of the municipal authorities in the field of public finance is severely limited by state imposed restrictions on the city's taxing power and mandatory requirements as to expenditure, many of the latter requiring cumulative increases each year.

As usual, the complaints and suggestions from taxpayer organizations seeking further reduction in the tax rate, and from employee and civic organizations demanding increased expenditures, resulted in no substantial change in the Mayor's figure. Nor is this likely to occur until provision is made for adequate hearings before the budget is prepared rather than after the figures are set in the Mayor's mind. The Board of Estimate made a slight addition to the original budget figures, raising the total to $737,400,923.00. The Council engaged in several stormy sessions, largely directed at the Mayor's methods and procedures in handling the budget, some of the strictures being well founded. Cuts were made to the extent of $5,427,851, the only major slashes being the elimination of $350,000 for the establishment of a veterans' center, and $3,500,000 to take care of cost of living bonuses as they might be required. However, the Council could not muster the requisite 13 votes to override the inevitable mayoral veto, and the budget became operative as originally submitted.

THE FIVE CENT FARE ISSUE

In connection with his budget measure, and independently thereafter, the Mayor attempted to find a solution for the thorny problem of financing the subways. In 1944 the operating deficit of the system, to be made up from the city treasury, reached $41,000,000. Bills were introduced at Albany providing for the creation of an independent Transit Authority to operate the subways with power to increase the fare up to ten cents in order to make them self-sustaining. The sponsors of this legislation were a Committee of Fifteen, reflecting the attitude of the larger realty interests in the city. In opposition were many small property owners and the rank and file of organized labor. The Mayor challenged the proponents of the bill to submit it to popular referendum or to prove that they could obtain the support of the five county leaders of the majority party within the city. That any direct provision for increasing the five cent fare was politically impossible was demonstrated by the adoption of a resolution by the Board of Estimate, sponsored by Borough President Lyons, putting that body on record as opposed to any such change.

Accordingly, the Mayor proposed as an alternative a special scheme of taxes to be utilized entirely for subway purposes. These included a 2 per cent tax on apartment, hotel, and lodging house rentals, and a 2½ per cent levy on business property rentals, to be collected from the tenant by the landlord, a similar tax on the rental value of owner-occupied property, one per cent on all mortgage interest, and a levy of 40 cents per week on all non-residents, thus forcing the commuter to assume a share of the burden. This method, the Mayor argued, would spread the subway load equitably over all groups who benefit from its existence, and would provide a surplus with which rehabilitation of equipment and extension of service could be had. The Mayor advanced the plan merely as a basis for discussion, suggesting that it might well go before the voters as an alternative to the proposed fare increase. Considerable discussion, pro and con, was elicited from interested groups, but nothing tangible resulted.

and the $40,000,000 operating deficit remains a bone of contention for future budget periods.

HOUSING DEVELOPMENTS

Considerable controversy was aroused at the end of 1943 as the result of the publication of plans of the Metropolitan Life Insurance Company for a redevelopment project on the east side to be known as Stuyvesant Town. While some criticism was directed at the undesirable density of the project, the greatest controversy resulted from an announcement that no Negroes would be accepted as tenants. It was properly felt that racial discrimination should not be permitted in any case of a company enjoying large benefits (use of eminent domain and tax exemption privileges) as a gift of the community. Numerous proposals were introduced in the Council to provide varying penalties for such discriminatory practice. The law as finally adopted provides for the termination of all tax exemption granted to housing and redevelopment companies 60 days after a finding by the state supreme court that they have discriminated in their choice of tenants because of race, creed, or color, unless the discrimination in question is ended within the 60-day period. Applying only to future projects, this will not affect the operations of Stuyvesant Town.

Possibly as a result of the unfavorable publicity obtained during the above controversy, the Metropolitan company announced that it had completed arrangements with the city for the construction of a second redevelopment project along the Harlem River between 133d and 135th Streets which would be available to the medium income groups of the Negro population in that area.

The Metropolitan further announced its intention of enlarging its original operations around Stuyvesant Town to embrace the entire area from 13th to 23d Streets. At 13th Street the Metropolitan project will meet the proposed Jacob Riis and Lillian Wald Houses of the City Housing Authority, thus extending the total recreated area on the East River from 23d down to Houston Street.

POST-WAR PLANS AND THE CAPITAL BUDGET

Although the demands of the war program prevent new construction to any substantial degree, the city authorities have continued to prepare plans for the post-war period with the dual objective of refurbishing the city's physical plant and of creating employment in the period of transition to a full peacetime economy. Most spectacular of the proposed programs continues to be the gigantic Idlewild Airport, now intended to handle as many as 900 long distance flight operations daily. Plans for projects totaling $200,000,000 have been completed; those for an equal amount are practically finished, and work is proceeding on plans involving an additional $350,000,000. Included are some 50 grammar and 20 vocational schools, four new general hospitals, and numerous health centers and police and fire stations. The total post-war program approximates $1,250,000,000, and the 1944 capital budget as presented by the City Planning Commission provides for a total of $196,000,000. The capital budget figures and the total post-war program have been subject to bitter criticism by taxpayer groups on the ground that the eventual carrying charges will create municipal insolvency, but no modification of the program has as yet resulted.

MANHATTAN REZONING

An important feature of 1944 was the first large scale rezoning of Manhattan by the City Planning Commission. The present pattern of land use dates from 1916 and is badly out of date as well as being the result of very unsatisfactory compromises made at the time of adoption. It is believed that the needs of business and industry can be cared for in a small part of the area, leaving a large part restricted to residential use and neighborhood shopping needs. Considerable opposition to the proposed amendments, which were sponsored by Commissioner Robert Moses, developed among realty interests and some business groups, accompanied by a large increase in the number of post-war building plans filed to escape the impact of the rezoning. Commissioner Huie then advanced a substitute plan to allow for greater flexibility and less onerous burdens on property owners, while at the same time achieving the ultimate objectives of the amendments more adequately. Public hearings were held at which there was substantial support for the Huie substitute, but the majority of the Planning Commission remained unconvinced, and the original proposals sponsored by Commissioner Moses were accepted. One interesting feature of the Planning Commission's activities during the year was its acceptance of and allotment of $4,000,000 to the McGoldrick proposal for the redevelopment of the depressed area between the Brooklyn end of the Manhattan and Brooklyn bridges, which marked the first serious controversy between the Mayor and the Comptroller during their service together on the Board of Estimate.

CITY AFFAIRS AT ALBANY

The operation of municipal home rule does not preclude a considerable amount of state direction of and legislative interference in New York City's affairs. On occasion the legislature sees fit to impose rather onerous burdens and annoying restrictions on the city; occasionally it acts to alleviate municipal difficulties and facilitate administration. The 1944 legislature followed the example of its predecessor in refusing to allocate a portion of the state surplus to the city, or to grant the Mayor's request for additional taxing power of a permanent character. It did, however, authorize the extension for another year of the special taxes, originally designed for relief purposes. These include the one per cent tax on sales, the compensating use tax, conduit tax, and business receipts tax.

Of great importance to those interested in the development of democracy and efficiency in municipal government was the provision to permit extensive revision of city charters by petition and popular referendum. The reorganization of the city school system recommended by the Rapp-Coudert committee was implemented by a law placing all executive power in the city school system in the hands of the Superintendent of Schools, leaving to the Board of Superintendents only policy-making authority as to texts and curricula. New legislation provides for much more effective protection against fire hazards in lodging houses. Of considerable interest to the financial district was the passage of legislation reducing the stock transfer tax to approximately an *ad valorem* base. This, unfortunately, was vetoed by the Governor on the ground that he had no time to study its probable impact on the finances of the state government. It seems probable that the proposed reduction will become law in 1945.

MUNICIPAL TRENDS AND FUNCTIONS

By Alfred Willoughby

Executive Secretary, National Municipal League

FEDERAL-STATE-CITY RELATIONS

Health Services.—The strong trend toward closer Federal-city relations and Federal-state-city relations continued during 1944, as cities largely completed their adjustments to war conditions and discussed their plans for adjustments after the war. Several new acts which affect municipalities were passed by Congress. Eleven million dollars was provided for grants to state and local health services and $11,250,000 to state and local governments for emergency health and sanitation activities.

The United States Public Health Service helped communities needing doctors or dentists by agreeing to contribute 75 per cent of the cost of transportation and the monthly allowance to be paid the doctor or dentist.

Highways. — The Federal-Aid Highway Act of 1944 advanced a new policy for Federal road aid, allocating Federal funds for expenditures on state and highway projects within the municipalities. Five hundred million dollars annually was authorized for three years after the war.

Surplus Property and Public Works.—The Surplus Property Act of 1944 provided that state and local governments be given the highest priority, after agencies of the Federal Government, on the purchase of surplus property. The War Mobilization and Reconversion Act authorized the distribution of Federal funds by the Federal Works Agency to state and local governments to assist in the planning of post-war public works projects.

Cooperation in OPA Regulations.—Federal-city cooperation was furthered by the establishment of the Municipal Affairs Committee of the Office of Price Administration, headed by the price administrator and including heads of operating departments, to consider the effect of OPA regulations on municipal government.

The Committee for Congested Production Areas, consisting of the director of the budget and representatives of the War Production Board, National Housing Agency, War Department, Navy Department, War Manpower Commission, and Federal Works Agency, continued to coordinate activities of the various agencies having to do with cities in which war industry had produced abnormal congestion and efforts were underway to persuade the Federal Government to take responsibility for helping war boom towns to readjust themselves to a civilian economy.

METROPOLITAN GOVERNMENT

Problems of metropolitan areas received greater attention because of additional strain produced by the war. Proposals were made for city-county consolidation, metropolitan area planning, and metropolitan joint performance of functions.

A contest was sponsored by the Boston Society of Architects to develop citizen interest and citizen participation in a forward-looking and practical master program designed to promote the sound growth and prosperity of the Greater Boston area. The prize winning essay proposed a federation of all 66 town and city governments in the area to produce centralizing controls over wasteful, overlapping metropolitan services, the federated government to follow the standard council-manager plan, with proportional representation suggested for electing a council.

Metropolitan area functional consolidation became more marked. This trend was especially strong in planning and health. Actual physical consolidation of city and county governments was again proposed in several places, including Cleveland and Seattle.

COUNCIL-MANAGER PLAN

Twenty-nine cities, towns, and counties adopted the council-manager plan in 1944, the largest number to do so in any year since 1930. Adopting the plan by charter were 14 communities in Maine, four in Oregon, three in Michigan, two in Missouri, and one each in Texas and Virginia. Three cities adopted the plan by ordinance, and five other communities which had adopted the plan in prior years were "recognized" as having the official plan. Three cities failed to appoint managers and were removed from the official list; one rescinded its manager ordinance and one voted to abandon the plan. The official count at the end of the year was 623, of which 584 municipalities and 11 counties were in the United States, 22 in Canada, five in Ireland, and one in Puerto Rico. Seven cities and towns voted to retain the plan at referenda.

HOME RULE

The New York legislature extended the home rule provisions for cities by making it possible to put extensive charter revisions on the ballot by petition. In Florida the voters defeated an attempt to change the constitutional amendment of 1934 directing the legislature to provide uniform optional plans of municipal government.

Charter committees were appointed in several large cities including Baltimore, San Francisco, and Minneapolis.

Proportional representation was adopted, with the council-manager plan, in Coos Bay, Ore. The voters of Long Beach, N. Y., rejected a charter amendment which would have repealed the council-manager-P.R. charter which the voters approved two years earlier. Hamilton, O. rejected an amendment to repeal P.R.

MERIT SYSTEM

The merit system continued to make important progress. State legislatures provided for the merit system in four Mississippi cities, the first in that state. Louisiana gave two cities the merit system by extending provisions which previously included only policemen and firemen. In New Jersey the state legislature passed an act creating a state pension system for policemen and firemen in all cities of the state. A number of new laws providing civil service, establishing retirement systems, and granting veterans' preference resulted from the Nov. 7 balloting. The merit system was adopted in four additional cities and two counties.

VETERANS PREFERENCE IN CIVIL SERVICE EXAMINATION

Colorado voters approved a veterans' preference measure granting veterans or their widows preferential points on top of passing grades in civil service examinations. Kansas City, Missouri, amended its charter to provide that wounded or disabled veterans of any war have a right to an additional five-point advantage in grade after qualifying for city employment, the five points to be added to the five points now given to honorably discharged war veterans. The appointing authority is also required, in all cases other than promotion, to appoint a war veteran if his name is among the top five on the eligible list. Among the California proposals dealing with veterans' affairs, action was taken to provide for the reinstatement of state and other public officials and employees upon their return from military service.

RETIREMENT SYSTEMS

Texas voters gave the cities or the state legislature authority to set up retirement systems for local governments, and South Carolina adopted a constitutional amendment providing pensions for state, county, and city employees. Four California cities and three counties voted to participate in the state employees' retirement system. One county and 16 cities in New Jersey voted to affiliate with the state retirement system.

ORGANIZED LABOR

There was increased recognition of organized labor in municipal government. Baltimore entered into an agreement with unions to make payroll deductions for union dues of per diem employees of the public works department when requested by the employee. The money is turned directly over to the unions. In Hartford, Conn., an ordinance was adopted permitting city employees to join unions but prohibiting them from participating in any strike.

The United States Bureau of Labor Statistics reported that trade union agreements, some of them of a closed shop nature, exist in a number of cities. Of the 32 cities studied, there were 11 agreements providing that all persons employed in a department must be or become members of the prevailing union within 30 to 60 days after employment. Eighteen agreements provided for arbitration as the final means of settling disputes. Strikes and lockouts were forbidden in eight agreements but were not mentioned in the other 24. All the agreements covered hours and rates of pay and time and one-half for overtime. Check-off of union dues was provided in six agreements, being compulsory in one and subject to the acceptance by the employee in five others.

There were a number of controversies between cities and organized labor. These included strikes of water and power department employees in Los Angeles and of water, street cleaning and highway employees in Philadelphia. In sharp contrast was the opinion by Justice William H. Murray in a case before the Supreme Court in Albany, N. Y. It stated:

"To tolerate or recognize any combination of civil service employees of the government as a labor organization or union is not only incompatible with the spirit of democracy, but inconsistent with every principle upon which our government is founded. Nothing is more dangerous to public welfare than to admit that hired servants of the state can dictate to the government the hours, the wages and conditions under which they will carry on essential services vital to the welfare, safety and security of the citizen . . .

"Much as we all recognize the value and the necessity of collective bargaining in industrial and social life, nonetheless, such bargaining is impossible between the government and its employees, by reason of the very nature of the government itself . . . Collective bargaining has no place in government service. The employer is the whole people. It is impossible for administrative officials to bind the government of the United States or the State of New York by any agreement made between them and representatives of any union . . ."

Many municipalities, probably a large majority of them, were shorthanded and found it impossible to recruit qualified employees to take the places of all of those who had entered the armed forces or had resigned for other work. There was a trend toward higher salaries or cost of living bonuses to meet this situation.

PLANNING AND HOUSING

Recent trends in planning and housing indicate a judicious caution on the part of cities toward subdividing outlying districts. Emphasis was on neighborhood redevelopment and extensive preparation for post-war adjustments. Urban redevelopment laws were variously affected by court action, being upheld in New York and declared unconstitutional in Illinois.

Joseph D. McGoldrick, comptroller of the City of New York, suggested a plan for redevelopment of an important area of downtown Brooklyn. He proposed that the city buy all land and property of the area, replanning it as a whole, then selling it in suitable plots, with restrictions, to private individuals and groups. Although rejected by the New York City Board of Estimate and Taxation, the plan was widely discussed as significant in indicating a trend in city planning. The Town and Country Planning Act adopted in England during the year provided for a similar procedure except that a municipality was empowered to lease, not sell, the various parts of the redeveloped area.

Emphasis on housing was increasingly on cooperation between Federal, local and private interests in achieving community redevelopment, for example, the Metropolitan Life Insurance Company plans for Stuyvesant Town and other post-war housing projects.

Estimates of post-war housing needs varied widely. The National Association of Housing Officials estimated a need for more than 1,000,000 new dwelling units per year for 15 years following the war and asserted that this goal could be achieved if government, private industry, and labor cooperated effectively. The National Association of Real Estate Boards predicted barely more than 300,000 a year.

Reflecting the widespread interest and activity in local planning to meet post-war problems, planning institutes were held in many areas.

PUBLIC WORKS

A two-fold emphasis was placed on public works during the year: a near-completion of emergency war facilities and extensive planning for post-war projects. Reflecting the latter trend, state and local voters authorized on Nov. 7 the issuance of a larger volume of new bonds than has been approved in any month since November 1933. Approximately $225,000,000 worth of issues were approved, bringing the year's total to about $345,000,000. Largest authorizations were in the Houston, Cincinnati, Baltimore, and Akron areas. Some metropolitan areas such as Portland, Ore. called in outside experts to help develop post-war public works programs. As a method of publicizing city plans, the city of New York's display of its plans for the post-war period was outstanding.

The widespread discussion of plans for post-war construction of public works was considerably deflated when, after a nationwide survey, the Federal Works Agency and the Bureau of the Census announced that the great volume of such projects had not got beyond the "preliminary" and "idea" stages.

Many local governments, it was pointed out, lacked the authority or the funds necessary to bring the plans to completion. The report said about two-thirds of the plan preparation already brought to the completed stage was reported by state and local governments of only five states—New York, California, Illinois, Michigan, and Ohio. A general reliance seemed to be placed on a considerable volume of Federal aid.

SAFETY

In safety measures it has been found that protective organizations, formed primarily to meet the contingency of air raids, have proved valuable for other purposes, particularly when emergencies required more men than were available from regular police and fire forces. The problem of post-war traffic was dealt with by a report of the National Safety Council giving comprehensive suggestions.

OTHER DEVELOPMENTS IN WAR AREAS

Many plans were put forth to cope with juvenile delinquency, particularly in war centers. There was some trend toward full time, year round municipal recreation departments, with several city departments cooperating to develop well rounded recreation programs. Problems of health, welfare, and education were particularly acute in war areas owing to the concentration of population and the difficulty of financing what in many cases would be temporary facilities. Some cities and counties established joint health units.

The outlook for public utilities in the post-war era, in the opinion of some observers, was for a continuation of the trend toward district and regional utility systems and administration.

PERIODICAL PUBLICATIONS

American City
470 Fourth Ave., New York City.
Municipal Finance
1313 East 60th Street, Chicago.
National Municipal Review
299 Broadway, New York City.
Public Management
1313 East 60th Street, Chicago.
Public Works
310 East 45th Street, New York City.
Sewage Works Journal
40 Wall Street, New York City.
Water Works and Sewerage
330 S. Wells Street, Chicago.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Civic Assn., 901 Union Trust Bldg., Washington, D. C.
American Municipal Assn., 1313 E. 60th St., Chicago, Ill.
American Public Works Assn., 1313 East 60th Street, Chicago.
Government Research Assn., 5135 Cass Ave., Detroit, Mich.
Institute of Local and State Government, University of Pennsylvania, Philadelphia.
Institute of Public Administration, 261 Broadway, New York City.
International City Managers' Assn., 1313 E. 60th St., Chicago, Ill.
National Civic Federation, 112 Park Ave., New York City.
National Civil Service Reform League, 67 W. 44th Street, New York City.
National Municipal League, 299 Broadway, New York City.
United States Conference of Mayors, 730 Jackson Pl., N.W., Washington, D. C.

DIVISION VI

TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

ALASKA

By Ernest Gruening
Governor of the Territory of Alaska

HISTORY

American history of the territory of Alaska can be said to date from 4 A.M., March 30, 1867, when the Treaty of Purchase was signed by Baron de Stoeckl for Russia and Secretary Seward for the United States. This treaty was proclaimed by President Andrew Johnson June 20, 1867, whereby the United States acquired from Russia the title to an area of approximately 586,400 square miles known as "Alaska," for the sum of $7,200,000. The appropriation for this purchase was made July 14, 1867, and the formal transfer took place at Sitka, Oct. 18, 1867. This purchase was negotiated by Secretary of State William H. Seward, who was severely criticized for what was termed "Seward's Folly."

GOVERNMENT

The bill providing for civil government in Alaska was introduced in the United States Senate in December, 1883; was passed by that body in January, 1884, and by the House of Representatives in May, 1884, when it was signed by President Arthur and became a law. The "Territory of Alaska," as such, was created in 1912, by the passage of what is known as the "Organic Act." At the present time, the local legislature of Alaska, which meets for a period of 60 days biennially beginning with the second Monday in January of uneven years, is composed of 16 senators and 24 representatives. The Governor is appointed by the President, subject to ratification by the Senate of the United States. A delegate elected every two years represents the Territory in the Congress. He may prepare and introduce legislation, act as a member of committees, but has no vote.

AGRICULTURE

The Alaska Rural Rehabilitation Corporation, with headquarters in Palmer, has general administration over approximately 140 farms and a total land area of 12,000 acres, of which 4,000 acres are under cultivation. During the past year the Corporation applied for the purchase of 4,281 acres from the General Land Office so that present farms may be enlarged. Also preparations are under way to set aside a number of tracts for ex-service men who qualify for the purchase of farm lands. The Corporation aids in the development of agriculture in the Matanuska Valley by maintaining reserve and emergency supplies of seed, hay, and fertilizer, by clearing land, making production loans at a low rate of interest to responsible farmers, etc. During 1944 the continuing large demand for farm products and the high prices paid to farmers resulted in a large acreage being planted with vegetables, such as potatoes, cabbage, head lettuce, and celery, and with field crops such as oats and peas for hay and silage, and barley, wheat and oats for grain. During the 1943 crop year 2,400 tons of potatoes were marketed, 100 tons of cabbage, 14 tons of celery, as well as many other kinds of vegetables. About 1,700,000 pounds of milk were supplied, chiefly to meet the civilian and military demands of the vicinity of Anchorage.

Agricultural Experiment Stations are maintained at the University of Alaska, in Matanuska Valley and at Petersburg, the latter being an experimental fur farm. Some of the research projects conducted during the year were the raising of swine and poultry, plant breeding, growing oats and peas for ensilage, raising dairy calves on locally grown grains, and wintering sheep. The Agricultural Extension Service is closely allied with the Agricultural Experiment Stations. During 1944 special emphasis was placed on the production, preservation, and conservation of foods. During 1943, 611 boys and girls were enrolled in 4-H club work.

EDUCATION

The Territorial public schools, for the education of white and mixed-blood children, are of two classes: schools within incorporated cities and incorporated school districts, and rural schools outside incorporated cities and school districts. During 1943-44, 44 rural and 18 city schools, employing 302 teachers, were maintained; 5,349 pupils were enrolled. The public high schools at Anchorage, Cordova, Douglas, Fairbanks, Juneau, Ketchikan, Nome, Petersburg, Seward, Sitka, Skagway, and Wrangell, also the rural high school of Palmer, the Sheldon Jackson School at Sitka and the Wrangell Institute at Wrangell, are accredited by the Northwest Association of Secondary and Higher Schools. High schools accredited by the Territorial Department of Education are maintained in the incorporated cities of Craig, Haines, Kodiak, Nenana, and Valdez, as well as in connection with a number of rural schools. The Territorial schools are under the general supervision of a Territorial Board of Education, with the Commissioner of Education as executive officer. Graduation from a three-year standard normal school or its equivalent is a prerequisite for the elementary teacher's certificate in Alaska. High School teachers must be graduates of standard four-year colleges and must have completed a minimum of 15 semester-hours of education.

The University of Alaska has completed its 22nd year as the only institution of higher education in the Territory. Although enrollment has decreased in some classifications, the addition of night classes to the regular schedule has maintained the total registration figure at a fairly constant level. Enrollment figures for the year totalled 895, comprising 213 students of college grade, 457 mining extension students, and 225 agricultural and home economics extension students.

The Office of Indian Affairs maintained 119 day schools and three vocational high schools with a total enrollment of 6,240 elementary school pupils and 430 high school pupils during the school year 1943-44.

FINANCE

Cash on hand in the Territorial Treasury Jan. 1, 1944 amounted to $930,063.85, as compared with $801,007.21 the previous year. The combined resources of territorial and national banks at close of business June 30, 1944 were as follows: capital $985,000.00, surplus and undivided profits $1,836,349.64, deposits $54,769,659.79. Totals for the previous year were: capital $985,000.00, surplus and undivided profits $1,585,153.73, deposits $44,799,852.46.

FISHERIES

The total value of the Alaska fishery products in 1943 was $66,516,317, an increase of $10,008,618 over the preceding year. Products of the Alaska fisheries in 1943 amounted to 332,719,560 pounds as prepared for market, an increase of more than 8 per cent over 1942. Continuing demand for fishery products, hampered in 1942 by military requirements, manpower shortages, loss of floating equipment, and transportation difficulties, was made easier to meet in 1943 by the operation of the Salmon Industry Concentration Plan, promulgated by the Secretary of the Interior on March 3, 1943, which concentrated in the more efficient plants the entire salmon canning operations, achieving savings in manpower, equipment, and critical materials, and eliminating some burden on shipping facilities. The total number of salmon of all kinds taken in 1943 was 85,846,723 as against 83,249,989 in 1942. The number of cases packed was 5,428,269 valued at $57,823,679, as compared with 5,075,866 cases valued at $48,298,913 in 1942. Eighty-three canneries were operated, 17 less than in 1942, and the number of persons engaged in salmon canning decreased from 19,946 to 19,143. Four herring plants were operated; the number of employees increased from 483 to 543, of which 181 persons were also engaged in other fishery operations. The total value of herring products was $1,813,991, an increase of 101 per cent over 1942. The value of halibut landings at Alaskan ports totaled $2,649,432 as compared with $3,555,000 in 1942.

FORESTS

The Chugach National Forest, located in the Prince William Sound region and Kenai Peninsula, and the Tongass National Forest covering the greater part of southeastern Alaska, comprise the National Forest system of Alaska. Their combined area is 20,850,000 acres. All national forest resources are available for use. Standing timber can be purchased and removed for use by local industries and individuals under specified forestry restrictions. Land classified as chiefly valuable for agriculture, mining, industrial enterprises, and townsites can be patented. Areas needed for water power development, fox farming, and other special purposes may be leased. The total estimated timber volume is 84,700,000,000 board feet, and the average volume per acre of the commercial timber stands is about 26,000 board feet. Total gross receipts from timber stumpage and the several classes of land use during the fiscal year 1944 were $193,285.77. Twenty-five per cent of the gross receipts are turned over to the Territory for schools and roads. Ten per cent of all receipts are made available to the Forest Service for road and trail building.

FURS

The largest take of fur-seal skins under controlled conditions was recorded in 1943, when 117,164 skins were secured from surplus seals on the Pribilof Islands. The census of the seal herd as of Aug. 10, 1943, showed a total of 2,720,780 animals in the herd, an increase of 5.24 per cent over the previous year. During the fiscal year ended June 30, 1944, two public auction sales of fur-seal skins were held at St. Louis, Mo., during which 39,267 skins were sold. Gross receipts from these sales were $1,512,544.40.

Owing to war conditions, fewer trappers were in the field during the past year, but high prices prevailed and values were in excess of the previous year's catch. A total of 291,108 pelts of all kinds brought the values up to $2,048,942. At the top of the list were beavers, 15,146 skins bringing $454,380; second, 212,352 muskrats worth $424,704; third, mink with 33,705 skins worth $421,312.50. Other furs ranked in value as follows: marten; white, blue, red, cross, and silver fox; lynx; otter; wolf; polar bear; coyote; wolverine; black bear; ermine; marmot, and hare.

HEALTH

The Territorial Department of Health has five divisions: Public Health Laboratories Division; Maternal, Child Health, and Crippled Children's Services; Communicable Disease Control; Division of Public Health Nursing and Division of Public Health Engineering. The United States Public Health Service assists the Territorial Department in formulating sound public health programs in accordance with requirements imposed by the regulations governing the expenditure of Federal funds. The District Director has also been assigned the duties of Medical Director of the Office of Indian Affairs in Alaska in order to assist in coordinating the work of the Territorial Department of Health and the Indian Service.

Tuberculosis remains the major health problem among the natives. One hundred and thirty cases of pulmonary tuberculosis were reported to the Indian Service during the fiscal year ended June 30, 1944, bringing the total reported since November 1940 to 1,046. The study begun six years ago for the purpose of determining the efficacy of Calmette-Guerin vaccine in producing immunity against tuberculosis was continued and is being conducted with the collaboration of the Office of Indian Affairs, the Phipps Institute and the United States Public Health Service.

MINERALS

Before the war, gold mining amounted to over 90 per cent of the total mineral production. Gold production has dropped from $26,458,950 in 1940 to $3,485,405 in 1943. Because of the strategic materials needed in gold mining only a few placer mines were given authority to mine during 1943 and then they were under certain restrictions. Throughout the past year the Bureau of Mines continued an extensive mineral program in Alaska to stimulate the production of metals important to the war, which will also have a favorable effect upon post-war mining in Alaska.

Of particular and timely importance is the discovery of hitherto unvisited oil seeps on the Arctic slope. This discovery has served to stimulate immediate detailed exploration of these seeps by the Navy and other interested agencies as a possible source of petroleum near the anticipated air routes of the future. Other projects now in progress include the investigation of coal deposits, iron and copper deposits on Prince of Wales Island, tin and tungsten deposits on Seward Peninsula and in the Fairbanks area, and tungsten deposits in the vicinity of Hyder. A study of chromite deposits on the Kenai Peninsula proved that Alaska will be able to contribute a substantial tonnage of this ore. The investigation of mercury deposits in southwestern Alaska, particularly around Sleitmut, has led to the production of an important amount of this material.

REINDEER

Reindeer constitute the only agricultural resource in western Alaska, an area about three times the size of Illinois. The Reindeer Service field headquarters are situated at Nome, and the Reindeer Supervisor is directly responsible to the General Superintendent of the Office of Indian Affairs at Juneau. At the close of the fiscal year, June 30, 1944, there were 2,528 native reindeer owners. Including 1944 fawns, approximately 140,000 reindeer graze 34 main ranges along the west coast between Kodiak Island and Barrow. The largest single herd of 30,000 animals belongs to the Government. Herding programs were maintained on 11 ranges, and four new herds were started in the Seward Peninsula and Kobuk regions. Reindeer are essential to the natives as a source of meat for food and skins for parkas, boots, mittens, sleeping bags, and other fur garments.

TRANSPORTATION

The Alaska Railroad, furnishing year-around passenger and freight service between Seward and Fairbanks, Anchorage and Whittier, Anchorage and Jonesville-Eska, handled more passenger and freight business in 1944 than in any previous year, and revenues, for the second successive year, were the highest in the railroad's history. Passengers carried totaled 84,300, an increase of 11,403 over the previous year. Rail line freight hauled totaled 627,847 tons, an increase of 166,464 over 1943. The revenue from passengers totaled $473,219.80 and the revenue from freight hauled totaled $9,909,622.56.

Alaska is served by five steamship companies: the Alaska Steamship Company, the Northland Transportation Company and the Alaska Transportation Company of Seattle, the

Canadian National Steamships of Vancouver, B. C., and the Canadian Pacific Railway Company of Victoria, B. C. During the past year, United States vessels operated by private industry have been under the operating control of the War Shipping Administration, and statistics on tonnage and passengers handled are not available.

Commercial aviation is one of the major factors in the industrial life of Alaska. The number of passengers flown during the fiscal year ended June 30, 1944 totaled 83,823; passenger miles flown 12,065,139; mail and freight carried 3,550,986 pounds.

HAWAII

By William M. Schuyler

Editor, *The American Year Book*

GENERAL

The 1944 review on that year's developments in the Territory of Hawaii, prepared from official sources, for various reasons could not be transmitted to the Division of Territories and Island Possessions of the United States Department of the Interior in time to be forwarded for publication in this issue of The American Year Book. Although statistical information is wanting, an overall picture of life in the Islands during the year can be drawn from a number of sources. Although the war situation in its more acute aspects drew farther and farther away from Hawaii as a result of the several reconquests of island groups, notably the Philippines, the Marianas, the Marshalls, New Guinea, etc., the war remained the dominating influence in 1944 Hawaiian activities.

GOVERNMENT

Of the 21 islands in the Hawaiian archipelago, eight are inhabited. During the greater part of the nineteenth century the islands formed an independent kingdom, but in 1893 the reigning Queen, Liliuokalani, was deposed and a provisional government set up. In 1894 a republic was proclaimed. Pursuant to the request of the people of Hawaii, expressed through the legislature of the republic, and a resolution of the United States Congress approved July 7, 1898, the islands were formally annexed to the United States on Aug. 12, 1898. The Organic Act under which Hawaii is governed was approved April 30, 1900.

Executive power is vested in the Governor, appointed by the President by and with the advice and consent of the United States Senate. The Hawaiian Organic Act provides that, to be eligible for appointment as Governor, one shall have resided in Hawaii for at least three years next preceding appointment. The present Governor is Ingram M. Stainback. The Secretary of the Territory, who becomes Acting Governor during the illness or in the absence from the Territory of the Governor, is also appointed by the President by and with the advice and consent of the Senate. There is a Legislature of two houses, a Senate of 15 members elected for terms of four years, and a House of Representatives of 30 members elected for terms of two years.

Hawaii is represented in Congress by a Delegate, elected biennially. He has the right to debate and to be a member of committees of the House of Representatives, but has no vote.

AREA AND POPULATION

For administration purposes the Territory is divided into five counties as follows: City and County of Honolulu, comprising the Island of Oahu (area 604 sq. m.); County of Hawaii, comprising the Island of Hawaii (area 3,030 sq. m.); County of Maui, comprising the Islands of Maui, Lanai, Kahoolawe, and all of Molokai except the leper settlement (area 1,164 sq. m.); County of Kauai, comprising the Islands of Kauai and Niihau (area 627 sq. m.); and Kalawao, administered by the Board of Hospitals and Settlement (area 13 sq. m.). The total area is 6,435 square miles. The principal cities are Honolulu, the capital, situated on Oahu, and Hilo, on the Island of Hawaii.

The regular annual population estimates of the Board of Health as of July 1, 1943 were withheld from publication in the interest of national defense, but the latest estimates made by the Registration Division of the Territorial Office of Civilian Defense list the non-military populations of the Territory as follows:

City and County of Honolulu	305,000
County of Hawaii	77,000
County of Maui	58,000
County of Kauai	38,000
Total	478,000

CONVERSION TO WAR STATUS

Hawaii, an organized and incorporated territory and an integral part of the United States, became the first United States soil to bear the brunt of the initial Axis attack upon the nation on Dec. 7, 1941. Within two hours of the attack, the nation's Pacific military and naval outpost was placed on an all-out war basis by the then Governor J. B. Poindexter, who proclaimed a "Defense Period" throughout Hawaii under powers granted by the Hawaii Defense Act. This act was passed the previous October by the Territorial Legislature in special session called principally for that purpose. Shortly after the proclamation was issued, the Governor suspended the writ of habeas corpus and placed the Territory under Martial Law pursuant to the provisions of Section 67 of the Hawaiian Organic Act and purported to turn over all the functions of the Territorial government, including the functions of territorial, county, and judicial officers, to the Commanding General of the Hawaiian Department who assumed the title "Military Governor of Hawaii."

Under such conversion Hawaii was completely blacked-out nightly; sales of intoxicating liquor were prohibited for a limited period and then permitted, when available, on a restricted basis; rents and prices of all commodities, including food, were strictly controlled; gasoline was rationed at a basic maximum of ten gallons a month plus such additional amounts as were necessary for transportation necessary for the war program; most of the functions of the civilian courts were assumed by the military provost tribunals; certain types of businesses were licensed and regulated as to hours of opening and closing; civilian mail was placed under censorship; and many other innovations, heretofore unknown to Hawaii and the rest of the United States, were imposed by the military upon the population.

This unique and unparalleled situation continued until Feb. 8, 1943 when, after a series of conferences in Washington with representatives of the War Department, Department of the Interior, the Attorney General's Department, proclamations were issued by the Governor of Hawaii and the Commanding General of the Hawaiian Department restoring as of March 10, 1943, the management of civil affairs to civil authority. This placed responsibility and supervision of civilian affairs where it properly belonged, with civil authorities. This restoration has not in any way interfered with the efforts of the military in Hawaii.

After three years of war, the Territorial Office of Civilian Defense continued its outstanding work throughout the five islands. Probably the peak of civilian effort was reached with the nearly 40,000 civilians of all races and ages who were trained to do war service, varying from hospital aides to block wardens. The following services were set up: 13,000 "bunny" masks for infants; mortuary burial division; emergency feeding division, ready and trained to serve meals to 70,000 civilians in 35 evacuation centers; plans and training; women's division; demolition, rescue, and repairs; transportation; air raid wardens, with over 7,200 volunteer members; emergency medical division, including supervision of blood plasma bank, first-aid stations, emergency ambulance service, and civilian emergency hospital and nursing activities;

registration division, which has completed the registration and fingerprinting of over 450,000 civilians; evacuation division; and civilian war services division.

In addition, the OCD has set up an Office of Emergency Management to direct and supervise certain civilian activities affected by the war emergency. Under this Office are food control, governing the importation of foods; food production, directing increase production of foods locally; materials and supplies control, regulating the importation of merchandise and supplies into the territory; medical and poison control; islands residents return control; Hawaii manpower control, to conserve and distribute labor for essential businesses; lands transportation control; and housing coordination division, to relieve the present shortage of housing facilities.

All peacetime resources of the territorial government have been dedicated to the achievement of the single national objective—win the war and get it over with as soon as possible. Consequently, the Department of Public Works has devoted its entire personned and resources to the construction and repair of highways and roads of military importance; territorial airports have been turned over to the armed forces for the duration; public lands have been transferred and licenses granted to military authorities for large areas of property required for military use; harbor facilities have been placed at the disposal of military authorities for vessel and freight movements; the Department of Public Instruction has permitted the use of school buildings by the military; the Department of Institutions has shared its hospitals, laboratories, and other facilities with the armed forces; the Department of Agriculture and Forestry has authorized the cutting and scaling of timber for the Army; and other departments, some in greater and some in lesser degree, have cooperated to lessen the burdens of the Army and Navy. In practically all instances the use and transfer of territorial properties and facilities have been without assistance from or payment by the Army or Navy therefor.

PUERTO RICO

By B. W. Thoron

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DESCRIPTIVE

Puerto Rico is an Island 100 miles long and 35 miles wide, with an area of 3,406 square miles. The capital, San Juan, is approximately 1,400 miles from New York and 1,000 miles from Miami. The Island is bounded on the north by the Atlantic Ocean and on the south by the Caribbean Sea.

Puerto Rico is sub-tropical, but trade winds blow continuously from the northeast. As a result, it has a moderate all-year climate, with an average temperature of 73 degrees F. in winter and 76 degrees in summer. Rainfall is generally abundant, although certain sections of the southern coast of the Island are so dry that crops in that region must be grown under irrigation.

HISTORICAL

Historically Puerto Rico is one of the oldest parts of Spanish America. Christopher Columbus discovered it in the course of his second voyage on Nov. 19, 1493. He named it Puerto Rico (Rich Port), probably because of the exceptionally fine harbor where San Juan is now located. The Indians had called the Island Boriquén.

POPULATION

In 1940 Puerto Rico had a population of 1,869,255 persons, or 544.2 per square mile. With the exception of some of the smaller islands in the Caribbean, no other place in the Western Hemisphere has so dense a population depending on an agrarian economy. More than 70 per cent of the people of Puerto Rico still live in the rural areas. San Juan, on the north coast, is the largest city, with a population, in 1940, of 169,247. The second and third largest cities are Ponce on the south coast with a population of 105,116 and Mayaguez at the west end of the Island with 76,487 inhabitants.

LANGUAGE

The Island became a possession of the United States in 1898 as a result of the Spanish American War. Spanish continues to be the mother tongue, although English is taught in the schools. The official language is English, and most commercial correspondence with the mainland is carried on in English. The language problem, however, is still a very serious one, and the attempt to make Puerto Ricans truly bi-lingual has not as yet succeeded.

GOVERNMENT

The Island is governed under the Act of Congress of March 2, 1917, known as the Organic Act, and subsequent amendments. The Governor, who is appointed by the President of the United States by and with the consent of the Senate, is the executive. He holds office at the pleasure of the President. The present governor is Rexford G. Tugwell of New York (appointed 1941).

The act provides for seven departments—Justice, Health, Interior, Education, Treasury, Agriculture and Commerce, and Labor—and the Auditor's office. The Attorney General, who is head of the Department of Justice, the Commissioner of Education and the Auditor are appointed by the President, the first two by and with the consent of the United States Senate. The Commissioners heading the other Departments are appointed by the Governor with the advice and consent of the Insular Senate. The heads of the Departments form the Executive Council.

Amendments to the Organic Act of Puerto Rico are pending in Congress, by which Puerto Rico may be granted a popularly elected Governor as well as other important prerogatives of self-government. The bill amending the Organic Act has been passed by the United States Senate but, as of Dec. 1, 1944, had not yet been acted upon in the House of Representatives.

Puerto Ricans each four years elect their own legislature which is made up of a Senate with 19 members and a House with 39 members. The Island is divided into 77 municipalities. Each municipality has its own Mayor and Council whose acts are subject to review by the Executive Council. The Resident Commissioner, elected by the people of Puerto Rico, represents the Island in the Congress of the United States. He has the right to debate, hold committee assignments, and to introduce bills, but does not have the right to vote.

THE 1944 ELECTIONS

In the November, 1944 elections, the Popular Democratic Party under the leadership of Luis Muñoz Marin, which came into office in 1940, again won—this time by an overwhelming majority in all of the seven senatorial districts in the Island, including San Juan. The Popular Democrats not only gained control of both Houses of the Insular Legislature, which they did not have in the past four years, but the Island will be represented in Washington by a Resident Commissioner, Jesús Piñero, who is a member of the Party. The Resident Commissioner elected in 1940 belonged to the Socialist Party.

JUDICIARY

The judiciary system consists of the Supreme Court, the District Court of the United States for Puerto Rico, the district and municipal courts, and justices of the peace. Appeals may be made in certain cases to appropriate higher courts, including the Supreme Court of the United States. The Chief Justice and the four Associate Justices of the Supreme Court, the U. S. District Judge, U. S. District Attorney and Marshall of the United States District Court for Puerto Rico are now appointed by the President, by and with the advice and consent of the Senate. Statutory laws of the United States not locally inapplicable, unless otherwise provided, are in effect in Puerto Rico.

POLITICAL STATUS

Puerto Ricans are citizens of the United States, but they can vote in Presidential elections only when they are living on the mainland. Puerto Rico has been held by the United States Supreme Court to be unincorporated territory of the United States, a status differing from that of those territories which have been incorporated into the Union.

THE WAR SITUATION

Puerto Rico in 1944 recovered to a very large extent from the serious supply situation brought about during the two previous years by the shipping shortage.

The Office of Distribution of the War Food Administration, under an agreement between that Agency and the U. S. Department of the Interior, continued to import, as agent for the Department, a major portion of the basic foods needed in the Island. Adequate surpluses of basic foods were maintained throughout the year. From time to time temporary shortages of a few items developed, owing as much to shortages on the Continent as to restrictions on shipping space. In no case, however, did a shortage imperil the basic food supply of the Island.

Entrance of Puerto Ricans into the armed forces continued throughout the year. Puerto Rican troops replaced Continental American troops to a considerable extent in the Caribbean and in Panama, and the 65th Infantry Regiment, composed entirely of Puerto Ricans, was sent to one of the active battle fronts.

LEGISLATION

The Sixteenth Legislature met in its fourth and last regular session on Feb. 14, 1944 and adjourned on April 15. During this session 202 bills were passed, of which 109 were approved by the Governor. The outstanding bills of the session were concerned with appropriations, among the most important of which were appropriations of $5,000,000 for the Puerto Rico Development Bank, $3,200,000 for the purchase of land and the preparation of plans for low rent housing after the war, and $1,000,000 for the employment of 900 additional teachers.

Because of the fact that the Popular Democratic Party, in office since 1940, did not have a majority in the lower house of the Insular Legislature during this session, little general legislation was proposed, and the session was relatively inactive. No special session of the Legislature was called during the year.

THE ECONOMIC SITUATION

Although Puerto Rico suffers chronic, widespread depression and unemployment, it was relatively prosperous in 1944. This was owing in part to the War situation and in part to accelerated industrial activity.

The war construction program, which for several years added so considerably to employment and income in Puerto Rico, ended over a year ago, but the presence in the Island of large numbers of Army and Navy personnel helped to maintain income. In addition, remittances from Puerto Rican service men were important in the economic life of the Island.

The need for relief is always pressing in Puerto Rico. In October, 1944 estimates of the number of unemployed ranged from 150,000 to 250,000. When Federal relief ended in December, 1943, with the liquidation of the Works Projects Administration, the Insular Government assumed greater responsibility for relief than ever before. Because of its greatly expanded income from the tax on rum imported into the United States, it was able to carry the relief burden without serious inroads upon insular finances.

Insular relief was administered through the War Emergency Program, as a combination of work relief and direct aid. An average of 23,500 persons per month were employed throughout the year on the works projects, and approximately 25,800 families received direct aid each month throughout the year. In addition, free food was distributed by the Office of Distribution of the War Food Administration to a monthly average of about 100,000 men, women, and children on the Island for part of the year, and 230,000 children were given food through the school lunch and milk station programs.

AGRICULTURE

Puerto Rico is still predominantly agricultural. There are three principal cash crops, sugar, tobacco, and coffee, of which sugar is vastly the most important. The sugar crop in 1944 was considerably under that of the previous year, with production of approximately 724,000 tons, the lowest since 1929. Tobacco production increased very materially over the previous year.

The special war problems under which Agriculture operated in 1942 and 1943 were mostly solved by the beginning of the present year. These problems arose primarily from restrictions on shipping space, which not only reduced supplies of fertilizer, machinery and supplies needed by farms, but made essential a very material increase in the production of foods for the Island. Emphasis upon the production of food crops continued during 1944, but the emergency in food supplies was not acute during the year.

Larger amounts of fertilizer were available and this resulted in a greatly increased production of tobacco. Because of the prolonged drought in the last months of 1943 and the spring of 1944, the sugar crop was almost 30 per cent below that of the previous year. The search for new agricultural crops continued, in the hope that crops could be discovered or developed which might supplement sugar, and lessen the Island's dependence upon one crop. To the present time, vanilla appears to be the most promising new crop, and vanilla production increased steadily throughout the year.

LAND

Because the land area of Puerto Rico is so limited, in relation to population, and because land ownership has been concentrated in the hands of a small group, the question of land ownership and land use is supremely important. The Insular Legislature, in the Land Act of 1940, established the method by which the Joint Resolution of the United States Congress, adopted in 1900, was to be made effective. Under that Joint Resolution, no corporation engaged in agriculture in the Island might own or control more than 500 acres of land.

Under the Insular Land Act, all corporately held or managed land in excess of 500 acres is to be purchased by the Land Authority for distribution. The distribution may take three forms: (1) land not suitable for major crops may be distributed in plots of from one quarter cuerda (slightly less than an acre) to three cuerdas, to agricultural workers; (2) parcels of from five to 25 cuerdas may be leased or sold to individual farmers; farms of from 100 to 500 acres may be leased to experienced farmers or agronomists, to be operated on a proportional profit basis, which provides that the laborers on the farms share in the profits in addition to receiving regular wages throughout the year.

The Land Authority, up to October, 1944, had distributed 11,345 parcels of land to 10,716 agricultural workers, representing approximately 57,000 persons; 1,129 cuerdas had been bought for distribution in 89 family-sized farms, and 73 such farms had been established; 10 proportional profit farms had been organized, six of which were in operation during the year. Proportional benefits of about $45,000 were distributed to the workers on these farms.

The average cost of the land bought for distribution to agricultural workers is $97.00 per cuerda; for family-sized farms, $82.02 per cuerda; for proportional profit farms, $204.01 per cuerda.

There are an estimated 150,000 families of agricultural workers in the Island, comprising approximately 825,000 persons. It is planned, under the present land program, to resettle about 125,000 of these families on small plots of land.

LABOR

Labor in Puerto Rico is not as yet well organized, but there has been greatly increased organizing activity in the past four years. Two island-wide labor organizations exist—the Free Federation of Labor, affiliated with the American Federation of Labor, and the General Confederation of Workers, formed in 1940.

The most serious labor dispute of the year occurred in the sugar industry, and delayed somewhat the harvesting of the crop. This dispute arose in part over wages, and in part over the question of which labor organization was to represent the sugar workers in collective bargaining. The United States Department of Labor, through a Federal Conciliator, the National Labor Relations Board, and the Insular Labor Relations Board (provided for by a law passed in 1938 and made operative during the year for this particular purpose), all attempted to bring about an adjustment of the dispute. In November, 1944, no such adjustment had been reached, and an investigation of the entire situation was being made under the sponsorship of the Insular Department of Labor.

In addition to the dispute in the sugar industry, the Federal and Insular labor conciliators intervened in a considerable number of strikes and disputes, no one of which could be considered a major problem.

INDUSTRIAL DEVELOPMENT

The Puerto Rico Development Company was established by the Insular Legislature in 1942 to promote the industrial development of the Island, in the belief that industrial development promises a possible solution to the Island's economic problems. The Development Company is authorized not only to help finance private industry, but to establish and manage industries of various kinds on behalf of the Insular Government. It has already had a profound effect upon the Island. At the close of 1944 a large glass container plant was ready to go into full production, and a paper products plant was nearing completion. Plans for the construction of factories for producing vegetable fats and oils, cotton textiles, and food yeast were completed and awaited only the lifting of war restrictions on building materials.

During the year the Development Company manufactured and put on sale pottery of various kinds, also furniture.

The Puerto Rico Development Bank, set up by the Insular Legislature in 1942, went into operation during the year. This bank has three primary functions: (1) to carry on refinancing operations of various kinds, including the refinancing of municipal bond issues; (2) to act as a central institution through which all financial operations of the Insular Government can be managed, and (3) to help finance the long-range industrial development of the Island, through the Development Company and private producers.

The outstanding industrial development of the year, however, was the enormously increased rum production. As stocks of liquor on the Continent were used up, demand for rum mounted. Volume of production in the first six months of 1944 was greater than in the same period of the preceding year. That production of rum decreased in the later months of 1944 was owing in large part to the limitation upon the use of molasses for rum manufacture.

FINANCES

Insular income, during the fiscal year 1943-44 was at its highest in the history of the Island. Revenues amounted to $104,002,220.31. The largest single source of income was the United States Internal Revenue tax on rum shipped to the United States, and returned to the Insular Government under the provisions of the Organic Act. This item alone amounted to approximately $63,000,000 as compared to $13,000,000 for the previous fiscal year. Income and other insular taxes also showed a very marked increase. The income tax receipts for the fiscal year amounted to $16,243,028.60, an increase of $4,923,922.63 over the previous year.

The insular public debt, already low, was further lowered from $16,398,000 to $12,254,000, or a reduction of 25.27 per cent.

BIRTH AND DEATH RATES

The birth rate of Puerto Rico, still extremely high, decreased slightly during the year. The report of the Insular Department of Health showed that the birth rate in 1943 was 39.6 per 1,000 population, as compared to 40.3 in the previous year.

The decrease in the death rate, however, was much more marked than that in the birth rate. In 1943 the death rate was 14.7 per 1,000 population, as compared to 16.6 per 1,000 population in 1942. The leading causes of death were diarrhea and enteritis, tuberculosis, and pneumonia. At the present rate of births and deaths, there is a net increase in the population of Puerto Rico of some 40,000 people each year.

HEALTH

The attempt to control venereal disease was continued during the year. In addition to the one special hospital opened in the previous fiscal year for treatment of venereal disease patients, three additional hospitals were obtained for this purpose, and two of them were put into operation during the year. Four diagnostic centers were also established in various parts of the Island, and clinic sessions held at Public Health Units throughout the Island were increased to 256 each week. An active educational campaign was carried on in cooperation with the Army and Navy, and with the United States Department of Health. Malaria control work continued.

EDUCATION

Enrollment in the public schools of Puerto Rico increased during the year. Total enrollment for 1943-44 was 329,595 or 8,000 more than in the previous year. The need for additional school buildings and teachers is acute. During the year, however, 900 additional teachers were added to the system. Out of a total school population of 642,107 children, 51.78 per cent were not in school, because of the limitation upon facilities. Of those in school, approximately half went to school for half days only.

The University of Puerto Rico had an enrollment of 4,179 in the 1944 fall session. Preliminary steps were taken toward the establishment of a School of Medicine in the University, and a number of reorganizations within various departments took place.

PUBLIC UTILITIES

The Water Resources Authority, an Insular Government agency established to develop the power resources of the Island, acquired ownership of the properties of the Porto Rico Railway, Light and Power Company and the Mayaguez Light, Power and Ice Company, from the Federal Works Agency, for which it had been operating the two properties since the previous year. This purchase concentrated in the Water Resources Authority practically all the power resources of the Island.

The drought in the spring of 1944 had for a time a rather serious effect upon power supplies in the Island. It was necessary for some months to control the use of power both for lighting and for industrial purposes. The Water Resources Authority is developing water power, and lessening the dependence upon imported fuel oil which has been the Island's chief dependence in the past.

Preparatory to transfer of the Porto Rico Telephone Company properties to the Communications Authority, an Insular government agency established in 1942, evaluation of the properties of the Company was undertaken and completed. It is expected that the properties will be purchased in the near future by the Authority.

PLANNING

The Puerto Rico Planning, Urbanizing, and Zoning Board, which began work in August, 1942, submitted its first Six Year Plan to the Insular Legislature in 1944. This plan included both capital improvements and current expenses. Owing to the fact that the House was taken over by parties in opposition to the Popular Democrats, however, only a few isolated features of the plan were passed upon by the Legislature.

The Board during the year held a series of meetings with various Insular government agencies, directed toward a revision of the Six Year Plan. It has also prepared a master plan for highways for the San Juan metropolitan area, where traffic is an extremely serious problem, and is working on a zoning study in 21 towns in the Island.

THE PHILIPPINE ISLANDS

By B. W. Thoron

Director, Division of Territories and Island Possessions, Department of the Interior

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JAPANESE OCCUPATION

On Dec. 8, 1941 (Manila time) the Philippines were invaded by the Japanese armed forces. On Jan. 2, 1942, the Japanese entered the city of Manila. Bataan fell on April 9. Effective resistance ended with the fall of Corregidor on May 6.

On Jan. 23, 1942, the Japanese Commander-in-Chief ordered the establishment of an Executive Commission, under the chairmanship of Jorge B. Vargas (formerly secretary to the late President Quezon of the Commonwealth of the Philippines, with the rank of cabinet member), to direct the administration of the Philippine government under the supervision and control of the Japanese Military Administration.

Japanese propaganda in the Philippines soon adopted the line that the Philippines were to be given their "independence" as soon as they had demonstrated their readiness for such a status, presumably by willingness to cooperate with Japan in the establishment of the Greater East Asia Co-Prosperity Sphere. Toward the middle of 1943, the Japanese sponsored the appointment of an Independence Preparatory Commission and of a sub-committee for the drafting of a constitution for an "independent Philippines." On Oct. 14, 1943, the Philippines were declared to be independent, the government of the "Philippine Republic" was inaugurated, and the Executive Commission ceased to function. José P. Laurel was selected as President of the puppet "Philippine Republic." Vargas, who seems to have faded more and more into the background during the course of the year, was subsequently made Ambassador to Japan.

This government apparently continued to function at least nominally throughout 1944. There was increasing evidence, however, that the puppet government had been ineffectual in the face of mounting economic distress and guerrilla activity and that the Japanese had been forced to resume virtually complete control.

AMERICAN REOCCUPATION

On Oct. 20, 1944, for the first time since the fall of Corregidor on May 6, 1942, American troops landed in force on the eastern coast of the Island of Leyte, to begin the campaign of liberating the Islands. General MacArthur, commanding these forces, issued a proclamation calling upon the Filipino people to assist in driving the Japanese from the Islands and pledging the restoration of control to local officials as soon as any area was freed of enemy control.

POLITICAL AND GOVERNMENTAL STATUS

The legal status of the Philippine Islands is that of an unincorporated territory of the United States. Under the program provided by Congress in the Independence Act of 1934, complete independence of the islands will be established in 1946, although in October, 1943 President Roosevelt asked Congress to grant him authority to proclaim independence of the Philippines "as soon as feasible." The act specifically sets forth the general powers and authority reserved to the United States during the transitory period of the Philippine Commonwealth Government.

The public debt may not exceed limits now or hereafter fixed by the Congress of the United States; trade relations with the United States continue to be governed exclusively by Congress; Philippine legislative acts affecting currency, coinage, imports, exports, and immigration do not become effective until approved by the President of the United States; foreign affairs remain under the direct supervision and control of the United States; all acts passed by the legislative body must be reported to the Congress of the United States; decisions of the courts of the Commonwealth Government are subject to review by the Supreme Court of the United States; citizens and corporations of the United States enjoy in the Commonwealth of the Philippines all the civil rights of citizens and corporations of the Philippines.

The United States reserves the right to maintain military and other reservations in the islands until independence and to occupy naval reservations and fueling stations after independence. There is also reserved to the United States the right to intervene under certain conditions set forth in the act. During the period of the Commonwealth Government a United States High Commissioner "shall be the representative of the President of the United States in the Philippine Islands."

Congress, during the year, approved two measures which modified the foregoing in certain respects. Public Law 380 approved June 29, included the following two sections:

SEC. 2. After negotiation with the President of the Commonwealth of the Philippines, or the President of the Filipino Republic, the President of the United States is hereby authorized by such means as he finds appropriate to withhold or to acquire and to retain such bases, necessary appurtenances to such bases, and the rights incident thereto, in addition to any provided for by the act of March 24, 1934, as he may deem necessary for the mutual protection of the Philippine Islands and of the United States.

SEC. 3. In order speedily to effectuate the policy declared in Section 1, the President of the United States is hereby authorized, after proclaiming that constitutional processes and normal functions of government have been restored in the Philippine Islands and after consultation with the President of the Commonwealth of the Philippines, to advance the date of the independence of the Philippine Islands by proclaiming their independence as a separate and self-governing nation prior to July 4, 1946.

Public Law 381 approved June 29, authorized the establishment of the Filipino Rehabilitation Commission to be composed of 18 representatives of the United States and the Commonwealth. The representatives of the United States were to consist of three senators to be appointed by the President of the Senate, three members of the House to be appointed by the Speaker of the House, and three persons appointed by the President. The nine representatives of the Commonwealth were to be appointed by the President of the Commonwealth.

The functions of the Commission are set forth in sections b and c of the Act as follows:

(b) The Commission shall investigate all matters affecting postwar economy, trade, finance, economic stability, and rehabilitation of the Philippine Islands, including the matter of damages to public and private property and to persons occasioned by enemy attack and occupation.

(c) To formulate recommendations based upon such investigations and for future trade relations between the United States and the independent

Philippine Republic when established and to consider the extension of the present or heretofore agreed upon trade relations or otherwise for a period of years to make adjustments for the period of occupancy by the Japanese in order to reestablish trade relations as provided for in the original Independence Act.

The members had all been appointed but the Commission had not begun to function at the close of the year.

CITIZENSHIP

Citizens of the Philippine Islands owe allegiance to and are under the protection of the United States but are not citizens thereof. Those who have had honorable service of not less than three years in the United States Army, Navy, Marine Corps, or Coast Guard may become citizens of the United States. For purposes of immigration the Philippine Islands are considered as a separate country, and the number of immigrants that may enter the United States therefrom during each fiscal year is limited to 50.

GOVERNMENT ORGANIZATION—EXECUTIVE

Under the Constitution drafted in accordance with the provisions of the Independence Act of 1934, the executive power was vested in the President of the Philippines elected by the Filipino people for a six-year term and ineligible for reelection. By an amendment to the Constitution, approved by the President of the United States on Dec. 2, 1940, the term of the President and of the Vice President was changed to four years; the tenure of the President was limited to eight consecutive years. The President controls all executive branches and has general supervision over local governments. He appoints all high officials of the Government and all minor officials not otherwise provided for. The President is commander-in-chief of the armed forces of the Philippines; in emergencies he may suspend the privileges of the writ of habeas corpus or place the Islands under martial law. He has power to grant reprieves and pardons and remit fines and forfeitures, after conviction, for all offenses, except in cases of impeachment.

There are nine executive departments. Three of the 12 cabinet members—Vice President, Secretary to the President, and Resident Commissioner in Washington—are without portfolio. The Auditor-General is appointed by the President for a ten-year term and is not eligible for reappointment. The Philippine Resident Commissioner to the United States is appointed by the President of the Philippines.

LEGISLATIVE AND JUDICIAL

Under the Philippine constitution, the legislative power was originally vested in a unicameral body called the National Assembly to meet every year in regular session for not more than 100 days. Under an amendment to the constitution, the Congress is composed of a House of Representatives of 98 members and a Senate of 24 members elected at large every six years. The membership of the House of Representatives, apportioned on the basis of population, is elected by popular vote every four years. Special sessions are limited to 30 days.

Close control and supervision over the natural resources of the islands are given to the Congress. This body is empowered to legislate with reference to public lands, timber, and mining. Prior to 1935, legislation on these subjects required the approval of the President of the United States before becoming effective. Heads of departments may be heard before the Congress. Veto provisions are similar to those in the United States Constitution, except that the President may veto specific items in appropriation, tariff, and revenue bills.

The judicial branch of the Commonwealth Government is composed of the Supreme Court, Court of Appeals, Court of Industrial Relations, Courts of First Instance, justices of the peace courts, and municipal courts.

GOVERNMENT-IN-EXILE

When it became evident that it would be impossible to prevent Manila from falling into the hands of the enemy, the United States High Commissioner, with a part of his staff, and President Quezon, with the Vice President and certain other members of his cabinet, transferred their offices to Corregidor. Most of them were later evacuated to Australia and then to Washington, D. C. On May 14 the President of the Philippines formally established in Washington a government-in-exile, composed of four cabinet members including the Philippine Resident Commissioner who serves without portfolio. The following month the Commonwealth Government was invited to join the United Nations, and President Quezon signed the pact on behalf of his country. On June 25 he took his seat in the Pacific War Council.

Early in November 1943, the Congress passed and the President signed a Joint Resolution continuing President Quezon and Vice President Osmena in their respective offices until normal processes of government are restored in the Philippines despite the provisions of the Philippine Constitution, referred to above, which would have terminated President Quezon's term of office on Nov. 15, 1943.

UNITED STATES HIGH COMMISSIONER

During the last half of 1941 the functions of the office of the High Commissioner were substantially expanded. Even before war broke out, the major part of the time of the High Commissioner and many of his staff was devoted to work connected directly or indirectly with the growing emergency. Administration of priorities was in part assigned to his office. Close attention was given to the Philippine sugar relief program. An important part of the work was concerned with matters connected with civilian defense and with economic controls, notably foreign funds control and export control, which was greatly expanded in scope. One of the major tasks undertaken in connection with foreign funds control was the taking of a census of alien-owned property in the islands. Studies were made of relief necessary to avoid the forfeiture of property interests due to the inability of debtors in captured or besieged areas to pay their obligations.

The President of the United States transferred to the High Commissioner the powers and authority, in so far as the Philippines were concerned, conferred upon him in the First War Powers Act, 1941. These powers were very broad, including authority to take over for safekeeping securities, gold bullion, silver and paper currency and other reserves, and to take steps necessary to prevent their falling into the hands of the enemy. The work of collecting tons of this valuable metal and paper in Manila and transporting them to Corregidor, where they were counted and inventoried, was performed with the aid of Army, Navy, and other government officials under most trying conditions. The paper currency and treasury certificates were destroyed; the bullion and other valuables were loaded on a submarine at Corregidor and transferred in mid-ocean to another naval vessel. Every ounce of gold and every security accepted by the office of the High Commissioner for safekeeping reached the United States safely.

High Commissioner Francis B. Sayre arrived in Washington on March 23, 1942 and submitted his resignation to the President. It was accepted as of June 30. Under date of Sept. 16, 1942, the President, by executive order, transferred to the Secretary of the Interior the functions of the United States High Commissioner.

TRADE

Information as to foreign trade of the Philippines in normal times will be found in preceding volumes of THE AMERICAN YEAR BOOK. No information as to foreign trade, if indeed there can be said to be such, is available for the period of the Japanese occupation as all trade with Europe and the United States, which alone approximated 80 per cent or more of total overseas trade, has been cut off. This situation has undoubtedly contributed to the troubles of the Japanese who had neither the ships nor capacity to absorb pre-war exports or supply anything in return for such exports.

FINANCES AND GENERAL CONDITIONS

On Sept. 30, 1941, the most recent date for which such information is available, monetary circulation amounted to $100,222,716, well above the average. The general condition of the banks at that time was considered satisfactory. Collections of the United States excise tax on Philippine coconut oil continued to be turned over to the Commonwealth treasury. These collections, which have varied from $16,000,000 to $20,000,000 a year, have been an important part of the total income of the Commonwealth Government.

At present the Commonwealth treasury has a relatively large amount of funds on deposit in the United States, consisting principally of currency reserves and special coconut oil tax funds. A substantial amount of the securities owned by the Commonwealth Government, including investments pertaining to the sinking funds of the public debt, are also on deposit in the United States. The Commonwealth Government is continuing to pay the interest on its public debt which is largely held by investors in the United States.

No authentic statistical data with regard to general economic conditions in the Philippines since the Japanese occupation are available. Such general information as is available, however indicates clearly that there has been a marked deterioration in the economic situation of the Philippines. Japanese broadcasts have admitted a three-fold increase in the cost of living since the outbreak of war. Although minimum wages and salaries were originally reduced materially, during the past year these minims have been raised by the Japanese to levels exceeding those prevailing at the outbreak of the war.

The increase in the cost of living appears to be partly the result of excessive issue of Japanese military pesos and partly the result of such factors as failure to restore the transportation system of the Philippines, requisitioning of food products and diversion of production to war purposes. Thus it has been reported that considerable quantities of coconut oil are being utilized for fuel and that the sugar industry has been largely converted to the production of alcohol. The Japanese claim they are making an intensive effort to promote economic self-sufficiency for the Philippines. There have been reports of Japanese efforts to promote the cultivation of cotton in substitution for sugar cane, but so far these efforts have not met with any marked success. The Japanese are apparently devoting great effort to exploitation of the copper resources of the Philippines and, according to reports, have shifted a large part of the mining equipment formerly utilized in gold mining to copper mining.

LOYALTY OF FILIPINOS

Confirming assurances of loyalty given on several occasions prior to the outbreak of war, President Quezon, in his inaugural address on Dec. 30, 1941, pledged the Filipinos to "stand by America and fight until her victory is won." Throughout the four-month long Luzon campaign the Filipino troops incorporated into the United States Army fought valiantly and to good effect in resisting the Japanese attack. Since then there have been reports of guerrilla warfare still being waged against the invaders in the more remote sections of the archipelago. In connection with the commemoration of the seventh anniversary of the Philippine Commonwealth, President Quezon declared that 20,000 Filipino soldiers had given their lives for freedom and 75,000 others had fought to the last. On that occasion the President of the United States, who earlier had stated that their gallant struggle "elicited the profound admiration of every American," said: "The brave peoples of the Philippines—their army and their civilians—stood shoulder to shoulder with the Americans in the fight against overwhelming odds—resolute to shed their blood in defense of their liberty. Richly do they deserve that liberty!"

Such information as is available indicates that the great mass of the people have continued loyal to the United States despite every effort of Japanese propaganda, bribery, and intimidation. A substantial number of leading Filipino politicians, however, appear to be collaborating with the Japanese, but even among this group the collaboration is believed to result more from opportunism and Japanese pressure than from conviction.

DEATH OF PRESIDENT QUEZON

President Quezon, whose health had for some years been seriously impaired, died at Saranac Lake, New York, on Aug. 1, 1944, after a lifetime of distinguished service to his country. Vice President Osmena took the oath as President on the same day. President Osmena, early in October, left Washington, with several members of his Cabinet and staff and landed on the Island of Leyte with American forces which began the reoccupation of the Islands by landing troops on Oct. 20.

THE VIRGIN ISLANDS OF THE UNITED STATES

By B. W. Thoron

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DESCRIPTION

The Virgin Islands of the United States, formerly known as the Danish West Indies, were acquired by the United States by purchase from Denmark in 1917 at a cost of $25,000,000. This group comprises about 50 islands of which only three are inhabited; with the British Virgin Islands they are strategically situated where the chain of the Antilles, separating the Caribbean Sea from the Atlantic Ocean, bends from a generally East-West direction to the south toward Trinidad and Venezuela. The Virgin Islands of the United States lie about 1,400 miles southeast of New York and 40 to 60 miles east of Puerto Rico. The inhabited islands are St. Croix (area 82 square miles; population 1940, 12,902), St. Thomas (area 32 square miles; population 11,265), and St. John (area 19 square miles; population 722). The seat of the central government is Charlotte Amalie, on St. Thomas, one of the finest harbors in the Caribbean.

HISTORY

Discovered by Columbus in 1493 the Virgin Islands of the United States, prior to Danish occupation had been under the flags of the Netherlands, England, France, and Spain. St. Croix was for 14 years owned by the Knights of Malta. Danish settlement of the Island of St. Thomas began in 1671, St. John in 1716, and St. Croix in 1734, and continued until 1917 with only a brief interlude from 1807 to 1815, during the Napoleonic wars, when all the islands were occupied by Great Britain. When peace was restored the islands were restored to Denmark in exchange for the Danish island of Heligoland. During the First World War Germany was negotiating with Denmark for the purchase of these islands. Their strategic relationship to the defense of the Panama Canal led to our acquiring them to forestall this threat.

GOVERNMENT

From the date of their acquisition to 1931 they were ruled by Naval governors. In that year jurisdiction was transferred to the Department of the Interior and the first civil governor, Paul M. Pearson, was appointed by President Herbert Hoover.

The Organic Act of 1936 provides that the Governor shall be appointed by the President with the advice and consent of the United States Senate. There is also a Government Secretary appointed by the President. Other officials of the central government are appointed by the Secretary of the Interior. They are paid by the Federal Government from annual appropriations by Congress. The present Governor is Charles Harwood of New York, appointed in 1941.

There are two municipalities, St. Thomas and St. John, and St. Croix. Local government and local finances are controlled by Municipal Councils elected by universal suffrage in each of the municipalities. Municipal officials are appointed by the Governor subject to confirmation by the respective municipal councils.

The municipal councils meet in joint session as the Legislative Assembly of the Virgin Islands at least once each year to enact laws applicable to the Islands as a whole.

Justice is administered by a United States District Court, with a judge and a U. S. attorney appointed by the President for terms of four years. The incumbents are Judge Herman E. Moore and James A. Bough respectively.

FINANCES

The budgets of the municipalities are financed by local taxation and by the proceeds of Federal income taxes collected in the Islands. The latter, particularly in St. Thomas and St. John, showed notable increases. Revenues of the municipality of St. Thomas and St. John reached a total of $1,617,705, from which $250,000 was set aside as a fund for hospital and high school construction. In St. Croix, owing to its primarily agricultural economy, the financial condition did not improve to the same extent. Revenues were $262,684. Expenditures were balanced by a Federal appropriation of $140,000 for the deficit.

ECONOMIC SITUATION

Defense construction work declined materially during the year, causing some unemployment. On the other hand, the greatly increased demand for rum in the United States, owing to the conversion of all continental distilleries to the manufacture of industrial alcohol, resulted in a large increase in municipal income from the taxes on the profits of this trade.

The shipping situation in the Caribbean was generally easier so that restrictions on the importation of merchandise could be relaxed. Wartime security measures, however, and the general disruption of ocean commerce continued so that the harbor of St. Thomas is still lacking its former activity as a coaling station and free port.

Agricultural conditions on St. Croix have remained about the same, but the completion of rehabilitation of the Bethlehem sugar mill by the Virgin Islands Company has led to increased planting of cane which should be reflected in 1945 production.

PUBLIC WORKS

Owing to the war emergency, the Public Works Department encountered many difficulties in procuring critical materials from continental United States. Consequently, many projects had to be postponed for an indefinite period of time. A water supply project has been constructed in St. Thomas with total storage capacity of 1,700,000 gallons, including five catchment areas and five cisterns which were completed by June 30, 1944. A sixth was 90 per cent built, and a seventh 50 per cent completed. Highways on the Islands have all been machine-graded, and are in a better condition today than ever before. The relations between the military and civilian populations have been highly satisfactory.

HEALTH AND SANITATION

In the phase of public health and sanitation, the incidence of venereal disease has been high in the past few years, but has shown distinct signs of dwindling owing, no doubt, to measures of control and hospitalization maintained through the assistance of the Federal Government. The work of the municipal physicians is carried out under various hardships, among which are dilapidated and ancient hospital buildings and facilities, and outmoded equipment. The general health standard of all the Islands is excellent. Clinics are conducted in infant welfare and pre-natal care. Infant mortality was undoubtedly reduced by free distribution of milk at various infant welfare clinics.

WAR SERVICE

The Selective Service Act was made applicable to the Virgin Islands on October 26, 1943, and operations were started in April, 1944. By June 30, 1944, 2,185 men were registered by the St. Thomas Local Board, and 1,475 by the St. Croix Local Board. There was a continued improvement in the food supply of St. Croix and St. Thomas, despite severe droughts.

EDUCATION

The educational system developed greatly during the year, Pay rates for teachers were increased, and the staff now includes administrative and supervisory assistants in the fields of physical education, art, music, attendance, adult education, vocational training, pre-school child development, and teacher training. Nursery schools are now carried on as an important branch of the educational system on all Islands.

LEGISLATION

The most important piece of legislation enacted during the session of the Virgin Islands Legislative Assembly in December 1943, was the Social Welfare Act of 1943. This act provides standards for improving social welfare services. The Municipality of St. Thomas and St. John passed such important legislation as scholarship loans and grants, legalizing of women jurors, and the application of surplus funds into reserves earmarked for post-war construction projects. Among the important measures passed in St. Croix were the legalizing of women jurors and a pension bill providing for the retirement of municipal employees at the age of 65, or before if total disability is sustained.

A bill was introduced in the U. S. House of Representatives authorizing the appropriation of $10,000,000 for such needed public works, including hospitals, sewers, schools, water supply, etc. No action was taken, however, beyond committee hearings.

A bill to extend certain sections of the Social Security laws to the Virgin Islands suffered a similar fate in the Senate.

VIRGIN ISLANDS COMPANY

The Virgin Islands Company is a non-profit corporation established in April, 1934 by an Ordinance of the municipal council for the Municipality of St. Thomas and St. John to rehabilitate agriculture and industry in the Virgin Islands for the benefit of the people. It is engaged in growing cane and in the production of sugar and of rum from the molasses by-product in a plant purchased and rehabilitated by the Federal Government and operated by the Company under an operating agreement with the Secretary of the Interior.

In addition to the manufacture of raw sugar and Government House rum, The Virgin Islands Company operates a rural electrification system and a rock quarry and crusher. It supervises the operation of a modern abattoir which is operated by the St. Croix Livestock Association, and a meat market in St. Thomas, designed for cold storage facilities and the key distribution point for meats processed at the St. Croix abattoir for the Armed Forces in the Caribbean area, as well as civilian St. Thomas and Puerto Rico. Both of these were built with Federal Works Agency funds. The company also owns and operates a motor yacht for dispatching the meats to St. Thomas, and for handling general inter-Island cargo. It has a well-equipped poultry farm which is leased to an operator who supplies poultry and eggs to the Island. It rents tractors, farm equipment, and land, and does general repair work in its machine shops for the people of the Island.

The Company has 11 villages housing approximately 420 families rent-free, and provides each family with one-tenth of an acre of land plowed and prepared for planting a provision garden. It provides four nursery schools, two of which serve as community buildings for evening social events. During non-crop season the Company employs approximately 500 persons, and approximately 600 during the crop season—Feb. 17 to Aug. 14. G. L. Pace is president of the Company and is resident director of operations.

The Company now grinds the entire crop of sugar-cane produced on the Island of St. Croix and is the only market for approximately 650 small growers of sugar-cane. During the fiscal year ended June 30, 1944, the Company cultivated approximately 2,800 acres of sugar-cane, and ground 33,484 tons of sugar-cane of which 17,745 tons were administration cane and 15,739 tons purchased from 646 small growers—producing 2,627.76 tons of raw sugar—, and 628,600 proof gallons of rum were manufactured and 420,382 proof gallons sold.

The financial results of operations were very successful, profits for the fiscal year being sufficient to wipe out past deficits and provide substantial reserves, including the payment of taxes of over $200,000 to the municipality of St. Croix.

THE DISTRICT OF COLUMBIA

By W. Reed West
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POWERS OF COMMISSIONERS

Congress has been cautious in delegating powers over the District of Columbia. As a result, it has been necessary to go to Congress for legislation upon some trivial matters that might well be determined by an administrative body. Every year there have been acts permitting the laying of pipes or conduits across streets or alleys or acts changing the names of streets.

To relieve this situation and to give some additional powers to the Commissioners, they have now been given power (Public 506) to authorize the construction of tunnels and the laying of conduits and pipes in alleys and streets; have been authorized to name highways, to change the names of circles, bridges, buildings, and other public properties, and after public hearings to change the names of highways; have been granted powers in respect to waiving business and license fees of persons in the military service; have been granted powers in respect to the bonding of plumbers, gas fitters, electricians, or those engaged in installing heating, air conditioning or refrigerating equipment; have been granted powers in respect to renting District property; have been granted power to suspend employees; have been granted power to collect fees for copies of documents; have been granted relief by permitting delegation of power to make contracts; and have been authorized to purchase real estate through a title company. The same act authorizes the transfer of certain powers to the Director of Inspection, and directs that property be bought so far as possible in accordance with regulations of the Procurement Division of the Treasury Department.

This act is itself evidence of the piecemeal way in which powers are granted to the Commissioners. Another act (Public no. 492) grants to the Commissioners power to appoint notaries public in the District. The power had previously been exercised by the President of the United States, and the investigations of applications and the supervision of appointees had been conducted by the Department of Justice.

VEHICLE REGULATION

There were three minor acts relating to vehicles. Public 485 extended to street car operators, bicycle riders, and other operators of vehicles the provisions of the old motor vehicle act in respect to reporting accidents and driving while intoxicated, except in respect to the revocation of operators' permits. Public 486 relieved members of the armed forces and Merchant Marine from the necessity of renewing their operator's licenses until six months after the close of hostilities. Public 490 extended the powers of the Commissioners in respect to provisions for off-street parking facilities.

INSURANCE

The Superintendent of Insurance has not had power to control fire, lightning, tornado, and windstorm insurance rates. It was alleged that the companies were absorbing nearly 70 per cent of the premiums in profits and expenses. Public 327, modeled on the Virginia law of 1928, gives powers over such rates to the Superintendent of Insurance. Another act (Public 291) amends the fire and casualty act in a number of particulars.

CARE OF CHILDREN

The old District law left without proper regulation the process by which a child could be placed in a home other than that of a close relative. There was no way to prevent the commercialization of the functions of the intermediaries who assisted in finding homes for abandoned children or children not wanted by the parents. To prevent this, Public 292, referred to popularly as the Baby Broker Act, provides for a committee which will set up regulations establishing standards of placement, care, and services of child-placing agencies. The Commissioners will grant licenses to such agencies if found fitted. Such agencies are prohibited from receiving compensation from persons adopting children. The papers by which parental rights are relinquished are to be placed under seal, not to be opened except upon court order. This act also repeals the old law upon apprenticeship.

Another act (Public 340) repeals the law of 1926 in regard to the care of dependent children (See THE AMERICAN YEAR BOOK, 1926), raises the age for receiving assistance from 15 to 17, and brings its provisions within the requirements of the Social Security Board. There was danger of losing the Federal appropriations for such aid if the law were not changed.

EXEMPTION FROM JUDICIAL PROCESS

The law in respect to exemption from judicial process was amended in Public 505. The new law provides an exemption for the head of a family or householder, of wearing apparel for all persons in the immediate family of the household of $300 per person, furniture up to $300, provisions and fuel for three months, tools of the debtor's trade up to $200, stock up to $200, library, office furniture, and implements of a professional man or artist up to $300, a horse or mule, a cart or wagon and harness or an automobile of $500 value if used primarily in the debtor's trade or business, all family pictures, and the family library up to $400. Earnings, insurance, and pensions of $100 a month of heads of families for two months preceding attachment are exempted. Those not supporting families are allowed an exemption of $60 a month for two months preceding attachment, wearing apparel of $300, and mechanics tools of $200. Assignments of salary are made unenforceable, and persons demanding or receiving such are made guilty of a misdemeanor.

CHILDREN OF VETERANS

The act of 1934 in respect to education of children of war veterans was amended to cover veterans of the war now in progress, giving not more than $200 for the education of each child between the ages of 16 and 21 in need of such aid.

NATIONAL MEMORIAL STADIUM

There has been much local agitation lately for the erection in the District of a stadium as a memorial to men who lost their lives in the First and Second World Wars. Congress responded by setting up a commission of three members of each house to consider a site, obtain plans and estimates of cost, and work out a self-liquidating plan of financing the project (Public 523).

MISCELLANEOUS LEGISLATION

A considerable number of minor acts relating to the District were passed. Public 507 attempted to clarify the law upon boxing contests and provided for financing its administration through a gate tax of ten per cent of gross receipts at such contests; Public 239 permitted the sale of shad and herring for one additional month of each year; Public 491 related to the disinterment of bodies; Public 297 raised the salaries of members of the fire department to correspond with similar positions in the police department; Public 508 extended the jurisdiction of the Commissioners over health conditions at federally leased restaurants in the District, except for the Senate and House restaurants; Public 484 broadened the conditions of reciprocal licensing so as to permit licensing of certain qualified physicians from other jurisdictions; Public 513 and 514 made provision for the Presidential inaugural ceremonies of 1945; Public 567 provided a uniform method for the transfer of stock; Public 253 extended for another year the act of 1943 increasing compensation for certain employees; Public 331 extended to July 1, 1945 the effective date of the alley dwelling act; Public 341 made a minor change in the minimum wage law in respect to publication of rules and regulations; and Public 233 corrected defects in the law relating to delinquent tax sales.

PART THREE

GOVERNMENTAL FUNCTIONS

DIVISION VII

PUBLIC FINANCE AND TAXATION

NATIONAL FINANCE AND THE PUBLIC DEBT

By William J. Carson
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MAXIMUM WAR PROGRAM

National finance in 1944 was dominated by the requirements of the country at the height of its war effort. Fighting on all major fronts increased during the year, and as the year closed it was at a climax of fury. The maximum programs called for by the President in his budget messages to Congress in January 1943 and again in January 1944 were substantially reached as Federal expenditures totaled $94,000,000,000 in fiscal 1944 and $99,000,000,000 in fiscal 1945. The magnitude of the war effort is revealed in the proportion of these huge totals that may be classified as war expenditures. In fiscal 1944 these expenditures amounted to $90,000,000,000, and in fiscal 1945 they are estimated to total $89,000,000,000, more than nine-tenths of the total Federal budget in each of the two years.

Net receipts from taxation in fiscal 1945 are estimated to be $45,730,000,000, about 45 per cent of total expenditures, and the increase in the public debt is estimated to be $50,797,000,000. At the end of June 1944 the Federal debt totaled $201,003,000,000; by the end of June 1945 it is estimated that it will be $251,800,000,000. In fiscal 1944 net receipts totaled $44,150,000,000, about 47 per cent of expenditures.

Table I summarizes the receipts and expenditures and the deficit in fiscal 1944, and the estimated receipts and expenditures and deficit in fiscal 1945.

FEDERAL EXPENDITURES

Total expenditures (general and special accounts) of $98,912,000,000 estimated for fiscal 1945 are approximately $5,000,000,000 larger than those in fiscal 1944 and appear likely to be the maximum outlay for any year of the war. Of this total, expenditures on war activities are estimated at $88,000,000,000 and non-war outlays at $10,912,000,000. Among the important items accounting for the larger amount of non-war outlays in fiscal 1945 is the increase in the interest on the public debt to $3,750,000,000 from $2,609,000,000 in fiscal 1944. Others are refunds of taxes, and increased operating expenses of the general government departments.

War expenditures for the period fiscal 1941—fiscal 1945 were discussed in detail by President Roosevelt in his budget message to Congress in January 1945. He said:

"Early in the war we had the threefold task of building up a new muni-

VII. PUBLIC FINANCE AND TAXATION

TABLE I

GENERAL BUDGET SUMMARY—COMPARATIVE STATEMENT OF RECEIPTS AND EXPENDITURES

General and Special Accounts

Description	Estimated, Fiscal 1945	Actual, Fiscal 1944
Receipts (based on present legislation):		
Direct taxes on individuals	$18,900,100,000	$20,290,365,711.84
Direct taxes on corporations[1]	17,042,600,000	15,255,964,759.07
Excise taxes	5,664,090,000	4,399,560,440.57
Employment taxes	1,806,800,000	1,751,239,423.32
Customs	326,100,000	431,252,168.24
Miscellaneous receipts	3,283,085,000	3,280,059,524.96
Total receipts	$47,022,775,000	$45,408,442,028.00
Deduct net appropriation for Federal old-age and survivors insurance trust fund	1,293,060,000	1,259,515,059.93
Net receipts, general and special accounts	$45,729,715,000	$44,148,926,968.07
Expenditures:		
War activities (see also Govt. corporations below)	$88,000,000,000	$87,038,671,937.86
Interest on the public debt	3,750,000,000	2,608,979,805.62
Refunds	2,171,986,000[2]	266,669,657.53[2]
Veterans' pensions and benefits	1,263,858,437	725,086,145.13
Aids to agriculture	465,143,800	765,260,323.13
Social security, relief and retirement:		
Social security program	485,535,000	511,419,398.77
Work relief	17,046,200	23,009,726.83
Retirement funds	556,260,500	440,041,600.00
Aids to youth	—	169,887.07
General Public Works Program	411,205,700	377,091,859.64
General government:		
Legislative branch	29,088,393	28,780,791.24
The judiciary	13,538,760	13,076,688.49
Executive Office of the President	2,581,000	2,401,525.13
Civil departments and agencies	1,149,616,550	959,021,353.67
Postoffice Department (general fund)	—	22,167,486.27[a]
District of Columbia (Federal contribution)	6,000,000	6,000,000.00
Expenditures from anticipated supplemental appropriations	590,478,000	—
Statutory public debt retirement	—	1,650.00
Total expenditures, general and special accounts	$98,912,338,340	$93,743,514,863.84
Excess of expenditures, general and special accounts	$53,182,623,340	$49,594,587,895.77

Checking Accounts of Government Corporations and Credit Agencies with the Treasurer of the United States

Net expenditures from checking accounts:		
War activities	$1,000,000,000	$2,681,633,923.52
Redemption of obligations in the market	1,874,459,075	2,873,580,916.48
Other activities	224,170,000[a]	1,152,146,165.50[a]
Net expenditures, checking accounts of Govt. corporations and credit agencies	$2,650,289,075	$4,403,068,674.50
Trust Accounts		
Receipts (based on present legislation):		
Unemployment trust fund:		
Deposits by States	$1,256,220,898	$1,349,306,970.12
Deposits by Railroad Retirement Board and other receipts	245,910,781	205,902,762.14
Transfers from general and special accounts	8,948,000	11,699,700.00

TABLE I (Continued)

GENERAL BUDGET SUMMARY—COMPARATIVE STATEMENT OF RECEIPTS AND EXPENDITURES (Continued)

Description	Estimated, Fiscal 1945	Actual, Fiscal 1944
Federal old-age and survivors insurance trust fund:		
Net appropriation from general account receipts	$1,293,060,000	$1,259,515,059.93
Interest on investments	129,983,773	103,177,087.09
Veterans' life insurance funds:		
Premiums and other receipts	980,533,700	897,479,364.06
Transfers from general and special accounts	516,228,342	101,208,962.49
Federal employees' retirement funds:		
Deductions from employees' salaries and other receipts	381,208,477	323,242,162.44
Transfers from general and special accounts	196,762,500	177,321,600.00
Railroad retirement account:		
Interest on investments	15,000,000	9,837,049.21
Transfers from general and special accounts	359,498,000	262,720,000.00
Other trust accounts:		
Transfers from general and special accounts	6,000,000	3,159,968.50
Miscellaneous trust receipts	786,433,113	348,150,902.49
Total receipts, trust accounts	$6,175,787,584	$5,052,721,588.47
Expenditures:		
Unemployment trust fund:		
Investments in United States securities	$1,449,458,781	$1,503,000,000.00
Withdrawals by States and other expenditures	65,500,000	60,590,783.79
Federal old-age and survivors insurance trust fund:		
Investments in United States securities	1,191,108,890	1,172,035,880.00
Benefit payments	238,000,000	184,597,363.80
Veterans' life insurance funds:		
Investments in United States securities	1,297,364,742	921,742,266.12
Insurance losses and refunds	199,397,300	64,958,490.84
Federal employees' retirement funds:		
Investments in United States securities	449,006,082	392,919,000.00
Annuities and refunds	133,458,008	102,662,500.69
Railroad retirement account:		
Investments in United States securities	232,000,000	140,500,000.00
Benefit payments	142,000,000	134,415,832.07
Other trust accounts:		
Investments in United States securities	11,358,000	1,378,000.00
Miscellaneous trust expenditures	776,815,047	24,333,745.88
Total investments in United States securities	$4,607,580,495	$4,128,819,146.12
Total benefit payments, annuities, and other expenditures	1,555,170,355	571,558,717.07
Total expenditures, trust accounts	$6,162,750,850	$4,700,377,863.19
Excess of receipts over expenditures, trust accounts	$13,036,734	$352,343,725.28

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[a] Excess of credits, deduct.

[1] Includes the following estimated amounts for excess-profits taxes refundable in the post-war period: 1945, $859,500,000, and 1944, $688,800,000.

[2] Includes transfers to public debt accounts for excess-profits tax refund bonds issued.

tions industry in this country, producing the equipment and means of transportation for our expanding armed forces, and aiding our allies in their resistance against the aggressors. The record today shows that we have spent $28,000,000,000 since July 1, 1940, to build munitions factories, cantonments, depots, hospitals, war housing and for other war construction.

"Three times the total strength of our Army and Navy at the time of Pearl Harbor is now fighting or deployed overseas. Thirty-six billion dollars of lend-lease aid have been furnished in goods and services to our allies, who in turn have aided us with approximately $4,500,000,000 worth of goods and services.

"We have now substantially completed our war construction. Expenditures for war construction, which in the fiscal year 1943 reached a peak of $12,700,000,000, are now down to an annual rate of about $2,500,000,000. The development of new weapons and increased need for ammunition still require some new plants and equipment, but total outlays for war construction are declining, as shown in Table II.

"We have also substantially completed the initial equipment of the Army and Navy and their air forces. Although we have now a merchant marine four times its pre-war tonnage, the terrific strain of global war makes necessary some further addition to the cargo and tanker fleet.

"Our forces engaged in battles in Europe and Asia expend munitions at a prodigious rate. The main job now is that of replenishing equipment and supplies and of providing our fighting men with the most up-to-date weapons which can be contrived. Some weapons of which we had sizable inventories only a few months ago must now be produced in increased quantities. More than one-fourth of present war production is in critical items. Untimely relaxation in war production spells greater sacrifice in human lives and delays victory.

"Expenditures for pay and subsistence of the armed forces still are increasing because of the higher pay for a larger number of soldiers and sailors stationed overseas. Expenditures for mustering-out payments are also increasing as a result of the considerable turnover in our forces."

TABLE II

WAR EXPENDITURES FOR FISCAL YEARS 1941-1945, INCLUDING NET OUTLAYS OF GOVERNMENT CORPORATIONS

(In billions)

Type of Expenditure	1941	1942	1943	1944	1945
Munitions, including ships	$2.3	$12.7	$42.3	$55.6	$53.8
War construction and war plant:					
Industrial plant and equipment	0.8	4.1	6.7	2.6	1.3
Non-industrial and military construction	1.4	3.5	6.0	2.0	0.9
Total war construction and war plant	$2.2	$7.6	$12.7	$4.6	$2.2
Pay, subsistence and other non-munitions[1]	2.2	8.0	20.1	29.5	33.0
Total war expenditures	$6.7	$28.3	$75.1	$89.7	$89.0

[1] Including agricultural lend-lease and other civilian war activities.

WAR PROGRAM APPROPRIATIONS AND EXPENDITURES

Authorizations and expenditures for the war program through fiscal 1945 are given in Table III. On the basis of these figures expenditures by June 30, 1945 will reach a total of $288,800,000,000. By June 30, 1946 they are expected to total $358,800,000,000.

REVENUE AND TAXATION

Net receipts (general and special accounts) during the fiscal year 1944 totaled $44,150,000,000. In fiscal 1945 they are estimated under present legislation to increase to $45,700,000,000; probably the maximum figure that will be reached during the war. The figure for fiscal 1946 is already estimated to decline to $41,255,000,000. Direct taxes on individuals are estimated at $18,900,000,000 for fiscal 1945, direct taxes on corporations at $17,042,000,000, and excise taxes at $5,664,000,000. The details of receipts and revenues are given in Table I.

GROWTH AND DISTRIBUTION OF THE PUBLIC DEBT

At the close of the fiscal year ended June 30, 1944 the Federal public debt was $201,000,000,000. By June 30, 1945, the end of the fiscal year 1945, it is estimated to total $252,000,000,-

TABLE III

WAR PROGRAM APPROPRIATIONS AND EXPENDITURES

(In billions)

Description	Cumulative from July 1, 1940 to	
	June 30, 1945	June 30, 1946
Authorizations:		
Appropriations	$362.7	$423.4
Unliquidated contract authorizations	13.1	11.1
Net commitments of Reconstruction Finance Corporation and affiliates	16.5	15.2
Total authorizations	$392.3	$449.7
Expenditures:		
General and special accounts	279.4	348.8
Reconstruction Finance Corporation and affiliates (net)	9.4	10.0
Total expenditures	$288.8	$358.8
Unobligated balances and unliquidated obligations end of period	$103.5	$90.9

000. Table IV shows the effect of financing operations on the public debt in fiscal 1944 and estimates of the effect of operations in fiscal 1945.

Analysis of the composition of the Federal debt by amount and kind of issues outstanding June 30, 1943 and June 30, 1944 is given in Table V.

Examination of the figures in Table VI shows that the increase in the Federal debt between June 30, 1943 and June 30, 1944 was distributed among all types of investors. Commercial banks, corporate and individual investors together increased their holdings by $43,000,000,000 and accounted for a large proportion of the total of $61,600,000,000 issued.

WAR LOAN DRIVES

Three war loan drives were held in calendar 1944—January-February, June-July, and November-December. Prior to these, three drives were held in 1942-1943. Increases in the Federal debt during the drives and the participation of the commercial banks and the Federal Reserve banks in them as reported in the *National City Bank Letter,* January, 1945 are shown in Table VII.

TABLE IV

FISCAL OPERATIONS AND CHANGES IN PUBLIC DEBT

	Estimated, Fiscal 1945	Actual, Fiscal 1944
Public debt at beginning of year	$201,003,387,221	$136,696,090,329.90
Increase in public debt during year:		
General and special accounts, excess of expenditures over receipts	53,182,623,340	49,594,587,895.77
Checking accounts of Government corporations and credit agencies with the Treasurer of the United States (net)	2,650,289,075	4,403,068,674.50
Trust accounts, excess of receipts over expenditures	−13,036,734	−352,343,725.28
Statutory public debt retirement	—	−1,650.00
Adjustment for change in Treasury cash balance	−5,023,262,902	+10,661,985,696.24
Increase in public debt during year	$50,796,612,779	$64,307,296,891.23
Public debt at end of year	$251,800,000,000	$201,003,387,221.13

TABLE V

UNITED STATES GOVERNMENT DEBT—AMOUNT AND KIND OF ISSUES

Issues	Outstanding Public Debt	
	June 30, 1944	June 30, 1943
Interest-bearing debt:		
Public issues:		
Pre-war bonds (World War I), including postal savings bonds	$ 195,926,860.00	$ 195,960,420.00
Treasury bonds	79,244,104,350.00	57,520,467,900.00
United States savings bonds	34,606,141,184.59	21,256,166,543.41
Depositary bonds	474,321,750.00	226,165,250.00
Adjusted service bonds	217,283,050.00	221,902,200.00
Treasury notes	17,404,896,800.00	9,167,942,500.00
Treasury notes (tax series)	109,021,750.00	1,031,471,025.00
Treasury notes (savings series)	9,447,737,600.00	6,463,975,000.00
Certificates of indebtedness	28,822,416,000.00	16,561,417,000.00
Treasury bills	14,734,104,000.00	11,863,911,000.00
Total public issues	$185,255,953,344.59	$124,509,378,838.41
Special issues:		
Government life insurance fund (adjusted service bonds)	$ 500,157,956.40	$ 500,157,956.40
Federal old-age and survivors insurance trust fund (notes)	4,385,500,000.00	4,043,500,000.00
Railroad Retirement account (notes)	318,500,000.00	178,000,000.00
Civil service retirement fund (notes)	1,450,913,000.00	1,060,321,000.00
Foreign service retirement fund (notes)	7,012,000.00	6,115,000.00
Canal Zone retirement fund (notes)	9,187,000.00	7,960,000.00
Alaska Railroad retirement fund (notes)	1,755,000.00	1,552,000.00
Postal Savings System (notes)	264,000,000.00	197,000,000.00
Canal Zone Postal Savings System (notes)	3,500,000.00	2,250,000.00
Government life insurance fund (notes)	1,900,000.00	38,000,000.00
National service life insurance fund (notes)	1,213,425,000.00	351,725,000.00
Federal Deposit Insurance Corporation (notes)	98,000,000.00	103,000,000.00
Federal Savings and Loan Insurance Corporation (notes)	26,662,000.00	106,078,000.00
Adjusted-service certificate fund (certificates)	16,890,000.00	18,268,000.00
Unemployment trust fund (certificates)	5,610,000,000.00	4,257,000,000.00
Federal old-age and survivors insurance trust fund (certificates)	380,000,000.00	—
Total special issues	$14,287,401,956.40	$10,870,926,956.40
Total interest-bearing debt	$199,543,355,300.99	$135,380,305,794.81
Non-interest-bearing debt:		
Public issues:		
Matured debt on which interest has ceased (payable on presentation)	$ 200,851,160.26	$ 140,500,090.26
Debt bearing no interest (payable on presentation)	1,259,180,759.88	1,175,284,444.83
Total non-interest-bearing debt	$1,460,031,920.14	$1,315,784,535.09
Total public debt on basis of daily Treasury statement	$201,003,387,221.13	$136,696,090,329.90

Analysis of the figures in Table VII shows that bank credit continued to expand in 1944 in response to the war loans. To the extent that bank credit expands as a result of purchases of securities or of loans to facilitate their purchase, the sales are not absorbing the inflationary money among individual investors and the drives are not accomplishing one of the objectives of war financing, namely, to minimize the possibilities of inflation.

In commenting on these and other problems that arise because of the large and growing public debt, Presi-

TABLE VI

DISTRIBUTION OF UNITED STATES GOVERNMENT SECURITIES, DIRECT AND FULLY GUARANTEED

(June 30, 1943 and June 30, 1944)
(In millions of dollars)

	June 30, 1943	June 30, 1944	Change
Total interest bearing securities	139,472	201,059	+61,587
Held by United States Government agencies and trust funds			
Special issues	10,871	14,287	+3,416
Public issues	3,440	4,789	+1,347
Held by Federal Reserve banks	7,202	14,901	+7,699
Privately held			
Total	117,959	167,082	+49,123
Commercial banks	52,458	68,437	+15,979
Mutual savings banks	5,290	7,308	+2,018
Insurance companies	13,100	17,300	+4,200
Other investors			
Marketable issues	18,700	30,700	+12,000
Non-marketable issues	28,400	43,300	+14,900

dent Roosevelt in his budget message to Congress said:

"Management of the public debt has become one of the major financial operations of the Government. To assure effective discharge of these responsibilities and, in particular, to maintain the present low rates of interest, ample powers must be available to the monetary authorities. . . .

"The management of the public debt is bound to have a profound influence on the economy for a long time to come. Retaining high taxes on the masses of consumers for general reduction of debt held by financial institutions may destroy purchasing power and create unemployment. But the use of progressive taxes for the redemption of bonds held by millions of individual savers may have a stabilizing influence on incomes and employment.

"I favor a policy of orderly but steady debt reduction, consistent with the objectives of long-run economic policy. The mistakes in debt management and tax policy after the last war should not be repeated."

TABLE VII

NET INCREASE IN OUTSTANDING NATIONAL DEBT, COMMERCIAL BANK HOLDINGS OF GOVERNMENT SECURITIES AND LOANS ON SECURITIES, AND FEDERAL RESERVE BANK HOLDINGS OF GOVERNMENT SECURITIES, DURING THREE WAR LOAN DRIVES IN 1944

(In millions of dollars)

Change in	Fourth War Loan Jan.–Feb. 1944	Fifth War Loan June–July 1944	Sixth War Loan Nov.–Dec. 1944
Gross national debt	+17,204	+22,207	+20,300
All Commercial Banks			
Government securities	+5,060	+8,800	+6,940
Loans on securities	+1,090	+1,700	+1,750
Total	+6,150	+10,500	+8,690
% to debt increase	36%	47%	43%
Federal Reserve Banks			
Government securities	+9	+551	+1,459
Total—Commercial Banks plus Federal Reserve Banks	+6,159	+11,051	+10,149
% to debt increase	36%	50%	50%

VII. PUBLIC FINANCE AND TAXATION

BOND PRICES AND YIELDS

Rates at which the Federal debt was financed in 1944 continued throughout the year at approximately the same levels that prevailed at the close of 1943. Yields on new Treasury bills remained at .375 per cent throughout the year; yields on 3-5 year Treasury notes, 3-5 year maturity, continued remarkably stable at from 1.30 per cent to 1.36 per cent. Yields on long term bonds likewise remained fairly stable at between 1.89 per cent and 1.95 per cent. Maintenance of these low rates, averaging less than 2 per cent, continued to be one of the remarkable achievements of the Federal debt policy.

Tables VIII, IX and X show in detail the course of the yields and prices by months in 1943 and 1944.

TABLE VIII

AVERAGE YIELDS ON SHORT-TERM OBLIGATIONS OF THE U. S. GOVERNMENT

	1943		1944	
	New Issues of Treasury Bills	3–5 Year Taxable Notes	New Issues of Treasury Bills	3–5 Year Taxable Notes
January	.367	1.29	.374	1.30
February	.372	1.24	.375	1.32
March	.373	1.33	.375	1.36
April	.373	1.39	.375	1.36
May	.373	1.36	.375	1.35
June	.374	1.32	.375	1.34
July	.374	1.30	.375	1.31
August	.375	1.29	.375	1.30
September	.375	1.31	.375	1.31
October	.375	1.31	.375	1.35
November	.375	1.29	.375	1.34
December	.375	1.30	.375[1]	1.35[1]

[1] Week ended Dec. 16, 1944.

TABLE IX

AVERAGE YIELDS ON LONG-TERM UNITED STATES BONDS

(Partially Tax-Exempt)

	1943	1944
January	2.06	1.95
February	2.06	1.93
March	2.08	1.91
April	2.02	1.94
May	1.92	1.94
June	1.85	1.91
July	1.82	1.89
August	1.83	1.90
September	1.80	1.93
October	1.90	1.93
November	1.94	1.90
December	1.95	1.88[1]

[1] Week ended Dec. 16, 1944.

TABLE X

UNITED STATES GOVERNMENT BOND PRICES[1]

(Monthly Average of Daily Figures)

	1943	1944
January	100.67	100.18
February	100.60	100.14
March	100.41	100.26
April	100.36	100.26
May	100.68	100.19
June	100.79	100.16
July	100.75	100.19
August	100.53	100.35
September	100.35	100.40
October	100.39	100.29
November	100.24	100.26
December	100.19	100.29[2]

[1] Average of taxable bonds due or callable in 15 years and over.

[2] Week ended Dec. 16, 1944.

POST-WAR FISCAL PROBLEMS

Another important development in national finance in 1944 was the increasing attention given to the fiscal problems during the transition from war to peace and afterwards. As the requirements of the war economy reached their maximum and the end of the war drew nearer, consideration began to be given to the magnitude and composition of Federal expenditures after the war and to the ways and means of providing the necessary funds to meet them. In his budget message in January 1945, President Roosevelt noted the importance of beginning plans to transform our all-out war economy into a full employment peace economy and discussed the elements of a tax program to stimulate full employment. Congressional committees began to study the problems, and reports by private organizations began to appear. Among the latter were the reports issued under the auspices of the Committee for Economic Development, The Twin Cities Research Bureau, and the National Planning Association.

STATE FINANCES AND TAXATION

By George H. Watson
Executive Director, Federation of Tax Administrators

REVENUES

State tax revenues in the fiscal year ended June 30, 1944, totaled nearly $5,400,000,000, setting a new high mark and exceeding collections during the previous year by 5.8 per cent, according to a preliminary report issued by the Bureau of the Census. This percentage increase was nearly twice as large as that of 1943, but considerably less than the increase of 13.4 per cent of 1942. However, if payroll taxes are excluded, the increase over 1943 was only 3.7 per cent (Table I). The sharpest increases took place in corporation and personal income taxes, which rose 26 per cent and 15 per cent respectively, and in unemployment compensation taxes, which increased by 12.5 per cent. The total of excise taxes showed virtually no change, compared to small decreases in the preceding two years. Increases in general sales tax and tobacco tax collections and in several minor excises were sufficient to offset the decrease in motor fuel tax revenues, and in alcoholic beverage tax revenues which declined for the first time. The drop in motor fuel taxes, however, was only 11.1 per cent compared to 26.7 per cent in 1943, and eight states reported increases in motor fuel tax collection in 1944. Motor vehicle licenses yielded $3,000,000 more than in 1943, reversing a two-year downward trend, while property taxes continued their long range decline.

The greatest increase in any state during 1944 occurred in Florida, amounting to 32.1 per cent. The major reason for this increase was a combination of revenues from the new cigarette tax, and a six-fold increase in state taxes on pari-mutuel betting. The ban on horse racing, effective Jan. 3, 1945, will substantially reduce revenue from this source in Florida and several other states for the 1945 fiscal year. Increases in state tax collections of more than 10 per cent were reported for Washington, Wisconsin, New Jersey, New York, California, and Louisiana. About a third of the states suffered decreases, however, the largest being 10.4 per cent in Nevada and 7.8 per cent in Wyoming.

A further understanding of the trend in excise revenues will be gained from a study of Table II. From this it will be seen that the decline in gasoline and motor fuel tax collections occurred largely during the first half of the fiscal year, July to December, 1943, and that fairly regular increases occurred during the first half of the 1944 calendar year. The pattern of decreases appears again in the figures available for the latter half of the 1944 calendar year, which are not included in the Census data. An important offsetting factor is the fact that refunds of motor fuel taxes for agricultural and other uses have been consistently increasing, regardless of the trend of gross collections. Data for the latter half of 1944 also reveal the decline in tobacco taxes resulting from the cigarette shortage, and a sharp increase in distilled spirits taxes resulting from the "liquor holiday."

The trend of collections over a period of eight years to 1944 is shown in Table III. It is notable that unemployment compensation, general sales, and individual and corporation income taxes have shown a steady increase with the rise in national income, while the increase in gasoline, motor fuel, and alcoholic beverage revenues has been halted by wartime shortages. During the eight-year period, state tax collections as a whole rose about 60 per cent, while national income during the same period doubled.

TABLE I

STATE TAX COLLECTIONS IN FISCAL YEARS ENDED ON OR BEFORE JUNE 30, 1944 BY TYPE OF TAX WITH CORRESPONDING COLLECTIONS IN 1943*

	Amount Collected (in millions)		Per Cent Change 1943 to 1944	Per Cent Distribution of Collection by Type of Tax, 1944
	1944	1943		
Total collections:				
Including unemployment compensation	$5,387	$5,094	5.8	100.0
Excluding unemployment compensation	4,068	3,923	3.7	75.5
Sales and gross receipts taxes	2,160	2,152	.4	40.1
General sales, use or gross receipts	721	671	7.5	13.4
Motor Vehicle fuels	691	777	−11.1	12.8
Alcoholic beverages	267	280	−4.7	5.0
Tobacco products	158	141	12.1	2.9
Insurance companies	125	120	4.2	2.3
Public utilities	125	115	8.7	2.3
Other	72	48	50.0	1.3
License and privilege taxes	685	670	2.2	12.7
Motor vehicle and operator licenses	398	395	.8	7.4
Corporations in general	114	107	6.5	2.1
Alcoholic beverages	54	55	−1.8	1.0
Hunting and fishing	23	23		.4
Other	95	91	4.4	1.8
Individual Income Taxes	337	293	15.0	6.3
Corporation Income Taxes	429	340	26.2	8.0
Property Taxes	243	258	−5.8	4.5
Death and Gift Taxes	112	109	2.8	2.1
Severance Taxes	71	75	5.3	1.3
Other Taxes	30	26	15.4	.6
Unemployment compensation taxes	1,319	1,172	12.5	24.5

* *State Finances; 1944*, Bureau of the Census, Vol. II, No. 1, Preliminary.

EXPENDITURES

This article in THE AMERICAN YEAR BOOK, 1943 pointed out the change in state expenditures from 1932 to 1942, since the change from 1941 to 1942 had few significant features. In 1943, however, certain important effects of the war may clearly be seen (Table IV). While the total of state expenditures showed virtually no change, this stability conceals significant shifts in expenditures for given purposes. Most notable is the decline of approximately $170,000,000 in highway expenditures, resulting from shortages of materials and labor for road construction and maintenance. This decline was made up by an increase of approximately $100,000,000 in unemployment com-

TABLE II

MONTHLY COLLECTIONS OF MAJOR STATES EXCISES*

(In millions of dollars with per cent change from same month of previous year)

Month	Motor Fuel Collections		Motor Fuel Refunds		General Sales & Gross Receipts		Cigarettes & Tobacco		Alcoholic Beverage[a]					
									Distilled Spirits		Beer		Wine	
	Amount	Change	Amount	Change	Amount	Change	Amount	Change	Amount	Change	Amount	Change	Amount	Change
December 1943	$ 62,139	−11.8	$ 6,444	18.8	$ 83,241	3.4	$ 13,521	11.0	$ 13,810	13.1	$ 8,306	32.2	$ 969	−24.0
January 1944..	56,630	2.8	6,063	2.9	44,464	−8.2	12,444	23.4	12,655	−6.1	7,990	27.4	1,023	−17.6
February......	55,640	13.3	5,588	13.3	44,819	45.1	11,369	16.7	12,093	−4.2	7,991	25.5	834	−16.9
March........	58,234	17.3	5,125	−1.7	97,992	−1.4	12,776	10.8	15,363	14.9	8,492	12.8	957	−2.9
April..........	58,465	−1.3	4,791	18.7	48,272	43.0	12,298	6.6	12,192	1.0	8,461	4.3	1,195	27.5
May..........	62,262	8.4	4,228	−10.6	39,291	−15.3	13,677	16.4	12,901	18.3	9,828	14.9	975	12.6
June..........	65,631	4.4	6,141	7.2	96,660	22.5	13,443	3.2	10,060	9.8	10,222	4.1	994	38.6
July..........	66,075	2.5	6,385	6.7	38,823	−18.0	12,749	−7.4	11,384	11.4	10,598	0.6	953	13.5
August........	64,971	−2.2	7,458	14.5	47,948	29.6	13,720	−1.0	14,475	43.4	10,732	4.7	899	23.7
September.....	60,804	−7.2	6,500	−3.8	89,354	−4.1	12,368	−4.8	13,328	19.4	10,599	9.6	893	17.0
October.......	64,491	5.1	7,028	20.0	50,508	33.4	12,425	−5.4	15,145[b]	19.5	10,067[b]	13.7	1,019	16.2
November.....	66,771	0.8	6,823[b]	16.0	43,200	−10.0	12,137	−10.4	16,438[b]	28.6	9,468[b]	11.1	1,099	8.9
Total.........	$742,113	1.1	$72,574	8.4	$724,572	6.3	$152,927	3.9	$159,844	13.6	$112,754	5.7	$11,810	5.1

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[a] Wine excises yield somewhat more than these figures indicate and distilled liquor and beer correspondingly less because ten states do not separate collections from liquor and wine and three do not separate those from beer and wine. Monopoly profits are excluded.

[b] One state estimated.

* Data prepared by the Federation of Tax Administrators.

pensation tax revenues deposited in trust funds and nearly $60,000,000 spent for schools. None of these changes bulks large as absolute amounts or percentages, and the remarkable thing about the expenditures for these two years is their stability, a stability which is in considerable measure a tribute to the state legislatures and executives who rejected the temptation to increase current spending sharply as a result of greatly increased tax revenues. Expenditure figures for 1944, which are not yet available, will undoubtedly show significant increases over 1943, resulting primarily from necessary salary and wage adjustments to meet the rising cost of living and higher salaries paid by private industry.

TABLE III

STATE TAX COLLECTIONS, BY MAJOR SOURCE: 1937-1944*

(in millions)

Tax Source	1944 Prelim.	1943	1942	1941	1940	1939	1938	1937
Total tax collections:								
Including unemployment compensation	$5,387	$5,094	$4,975	$4,507	$4,157	$3,884	$3,834	$3,360
Excluding unemployment compensation	4,068	3,923	3,899	3,606	3,313	3,085	3,132	3,013
General sales, use, or gross receipts	721	671	633	575	499	440	447	434
Motor vehicle fuel sales	691	777	942	913	839	801	777	722
Alcohol beverage sales	267	280	256	216	193	174	175	177
Tobacco product sales	158	141	131	106	97	60	55	54
Motor vehicle and operator licenses	398	395	431	434	387	364	359	349
Alcoholic beverage licenses	54	55	56	56	62	54	52	44
Individual income	337	293	249	225	206	197	218	199
Corporation income	429	340	274	197	155	134	165	157
Property	243	258	271	268	260	259	244	292
Death and gift	112	109	112	118	113	133	142	116
Severance	71	75	62	53	53	47	58	49
Other, except unemployment compensation[1]	585	530	482	445	449	422	440	420
Unemployment compensation tax	1,319	1,172	1,076	901	844	799	702	347

[1] Includes taxes from the following sources: insurance gross premiums, public utility gross receipts, pari-mutuels, admission and amusement sales, soft-drink sales; licenses for corporations in general, hunting and fishing, occupations, chain stores, amusements, and race tracks; poll, documentary and stock transfers, and miscellaneous taxes.

* *State Finances—1944*, Vol. II, No. 1, Preliminary.

FINANCIAL POSITION OF THE STATES

The excellent financial position of the states in 1943 was further improved in 1944 with continued rapid reduction in debt and accumulation of surpluses. Few tax reductions were enacted in 1944 legislative sessions, indicating that the relatively few legislatures meeting in 1944 were largely following the advice of the Council of State Governments and similar organizations by strengthening their financial position through conservation of peak revenues, rather than reducing tax rates in the face of an uncertain post-war future.

State debt, shown in Table V, reached the lowest point since 1931 with a 5 per cent decrease in gross debt and a 7.2 per cent decrease in net long term debt for 1943. Every state except California reduced its gross debt between 1943 and 1944, and the apparent increase in California is the result of a refunding process which was not completed by the end of the fiscal year. If the refunding had been completed, California would have shown a decline of approximately 8 per cent. Idaho, Michigan, Texas, and Vermont reduced their indebtedness by more than 20 per cent, while nine other states cut their debts by 10 per cent or more.

TABLE IV

STATE EXPENDITURES*

(in millions)

Function	1943	1942	Per Cent Change 1942–1943
Total Expenditures (including debt retirement)	$5,892.1	$5,843.9	0.8
Total Cost Payments (excluding debt retirement)	5,510.2	5,529.4	−0.3
General Control	172.6	173.8	−0.7
Public Safety	147.9	147.3	0.04
Highways	965.8	1,132.0	−14.7
Natural Resources	125.1	130.8	−4.4
Health	61.7	58.7	5.1
Hospitals	267.9	263.7	1.6
Welfare	913.9	908.4	0.6
Corrections	80.0	80.5	−0.6
Schools	1,113.3	1,056.5	5.4
Libraries	3.2	3.2	0.0
Recreation	12.4	12.0	3.3
Miscellaneous	294.5	303.3	−2.9
Unemployment Compensation	1,171.5	1,076.0	8.9
Trust Fund and Enterprises	81.3	69.8	16.5
Interest	101.1	113.5	−9.3
Debt Retirement	381.9	314.5	21.4

* Adapted from *State Finances:* 1942, 1943, Bureau of the Census.

A large number of states have accumulated current surpluses far in excess of net debt outstanding at present, but have been prevented by legal restrictions or have refrained as a matter of policy from applying the surplus to further debt reduction. Substantial amounts of many surpluses and cash balances are invested in Federal bonds, and in a number of states part or all of the surplus is earmarked for special post-war projects.

LEGISLATION

In contrast to 1943, relatively few tax laws of major importance were enacted during 1944, when only eight state legislatures met in regular session. Although pressure for lowering of taxes continued, the only significant reduction in tax rates was in the Mississippi income tax. The Mississippi legislature also enacted a 6 per cent oil production tax, and a 10 per cent tax on the sale of tangible property or commodities prohibited by law—the so-called "bootleg tax" or "black-market tax" primarily intended to raise revenues from sale of bootleg liquor.

The most important single item of tax legislation was the comprehensive revision of the New York corporation franchise tax law, giving uniform treatment to business corporations, investment trusts and holding companies, and adopting the so-called "double allocation formula." Virginia enacted a new wine tax, and several states repealed the exemption of Federal property from property taxes, where Congress permits such taxation. Twelve states adopted further special tax concessions for the members of the armed services, and four Western states in the November elections rejected proposed multi-stage gross receipts taxes to finance "$60 at 60" old-age pension plans.

COURT DECISIONS

The Supreme Court of the United States and several state supreme courts rendered important tax decisions affecting the states in 1944. These related primarily to taxation of interstate commerce and to the problem of intergovernmental tax immunity.

The trend toward permitting nondiscriminatory state taxation of interstate transactions was accentuated through several decisions in the sales or gross receipts and net income tax

VII. PUBLIC FINANCE AND TAXATION

TABLE V

GROSS DEBT OF INDIVIDUAL STATES, 1943-1944

(amounts in millions)

State	Gross Debt		Change: 1943–1944	
	June 30, 1944*	June 30, 1943**	Amount	Per Cent
Total	2,796.3	2,946.0	150.0	−5.1
New York	616.4	628.9[1]	12.4	−2.0
California	242.8	203.1	39.7	19.5
Pennsylvania	189.9	198.6	8.7	−4.4
Louisiana	168.5	177.6	9.1	−5.1
Arkansas	144.1	149.4	5.3	−3.6
Illinois	125.1	138.2	13.2	−9.5
North Carolina	119.1	128.5	8.6	−6.7
New Jersey	96.2	102.7	6.6	−6.4
South Carolina	86.1	87.1	1.0	−1.1
Tennessee	83.5	98.0	14.5	−14.8
Minnesota	82.4	98.5	16.1	−16.3
Missouri	80.9	87.7	6.8	−7.8
Massachusetts	79.8	101.6	21.8	−21.5
West Virginia	75.1	76.2[1]	1.0	−1.4
Mississippi	74.3	78.2	3.9	−5.0
Alabama	71.8	72.2	0.4	−0.6
Maryland	43.3	51.8	8.5	−16.4
Oklahoma	29.9	32.4	2.4	−7.5
South Dakota	27.7	28.9	1.2	−4.1
Rhode Island	27.6	28.4	0.8	−2.7
Michigan	25.8	34.6	8.9	−25.6
Connecticut	25.2	26.5	1.3	−5.0
Virginia	24.9	27.0	2.1	−7.7
New Mexico	24.8	26.7	1.9	−7.0
Oregon	23.7	27.4	3.7	−13.6
North Dakota	22.4	23.5	1.1	−4.7
Maine	21.2	24.5	3.4	−13.7
Colorado	20.0	22.1	2.1	−9.3
Georgia	18.6	22.2	3.5	−16.0
New Hampshire	16.1	17.5	1.4	−8.0
Texas	14.5	18.5	4.0	−21.5
Washington	14.5	15.9	1.4	−8.8
Kansas	12.9	14.2	1.3	−9.5
Montana	12.3	12.9	0.6	−4.9
Ohio	12.1	12.9	0.8	−6.2
Kentucky	7.5	8.2	0.7	−9.1
Indiana	7.0	7.5	0.4	−5.9
Delaware	4.7	5.1	0.3	−6.8
Vermont	4.4	5.5	1.1	−20.8
Wisconsin	4.2	4.3	0.1	−2.2
Wyoming	3.5	3.5	0.1	−1.4
Arizona	3.4	3.6	0.1	−3.5
Utah	2.2	2.3	0.2	−6.7
Iowa	1.6	1.5	0.1	8.3
Idaho	1.5	2.0	0.5	−26.4
Nebraska	1.1	1.3	0.2	−12.9
Florida	1.0	—[1]	—	—

[1] Revised 1943 figures not available.

* *State Finances*, 1944, Vol. II, No. 2.

** *State Finances*, 1943, Vol. III, p. 7.

fields, although one important decision (McLeod *v.* Dilworth) denied the applicability of a state sales tax to a transaction which clearly could be made liable for use tax. In the Northwest Airlines case, the United States Supreme Court refused to apply the apportionment principle in property taxation of air fleets engaged in interstate commerce, permitting the county of domicile and home port to tax the full value of the fleet of planes.

In the important field of intergovernmental relations, the Supreme Court decided in the Mesta Machine Company case that machinery owned by the Federal Government and leased to a war contractor is exempt from local property taxes. Certain other decisions are discussed in the sections dealing with specific taxes.

GENERAL SALES, GROSS RECEIPTS, AND USE TAXES

Receipts from general sales and similar taxes continued to increase throughout 1944 at an even faster pace than in 1943. Although only 23 states use this form of taxation (Table VI), revenues from sales taxes represent the largest single item in total state tax collections, if unemployment compensation payroll taxes are excluded. Sales tax revenues of approximately $720,000.000 exceeded motor fuel taxes by $30,000,000 and corporation income taxes by more than $300,000,000. The upward trend, reflecting both increased spending and rising prices, continued in spite of a reduction from 3 to 2.5 per cent, effective July 1, 1943, in California, the most important sales tax state from the point of view of revenues. California

TABLE VI

STATE SALES AND GROSS INCOME TAXES

*Alabama	2% of gross receipts of retail sales, 5% on sale of automobiles; extends to amusements.
Arizona	2% of gross receipts of retail sales of tangible personal property; extends to other kinds of business at rate of 0.25%–2%.
Arkansas	2% of gross receipts of retail sales of tangible personal property; extends to amusements, public utilities, transmission services and printing.
*California	2½% of gross receipts of retail sales of tangible personal property.
*Colorado	2% of gross receipts of retail sales of tangible personal property; extends to public utilities and to meals.
Illinois	2% of gross receipts from retail sales of tangible personal property; 3% on gross receipts of public utilities.
Indiana	0.25% of gross income from wholesale sales; .5% of gross income from retail sales; 0.25% of income from display advertising; 1% of income from other sources.
*Iowa	2% of gross receipts from retail sales of tangible personal property; extends to amusements and public utilities.
*Kansas	2% of gross receipts from retail sales of tangible personal property; extends to public utilities, amusements, meals and drinks.
*Louisiana	1% of gross receipts of retail sales of tangible personal property.
*Michigan	3% of gross receipts of retailers; extends to public utilities.
*Mississippi	2% of gross receipts of retailers; 0.125% of gross receipts of wholesalers; extends to other kinds of business at rate of 0.25%–2.5%. Additional 10% "bootleg" or "black-market" tax on commodities sale or distribution of which is prohibited by law.
Missouri	2% of gross receipts of retail sales of tangible personal property; extends to amusements, public utilities, charges for rooms, meals, and drinks.
*New Mexico	2% of gross receipts of retailers; 0.125% of gross receipts of wholesalers; extends to other kinds of business at 0.25%–1%.
*North Carolina	3% of gross receipts of retailers; 0.05% of gross receipts of wholesalers.
*North Dakota	2% of gross receipts of retail sales of tangible personal property; extends to public utilities and amusements.
*Ohio	3% of gross receipts of retail sales of tangible personal property.
*Oklahoma	2% of gross receipts of retail sales of tangible personal property; extends to public utilities, amusements, and other kinds of business.
*South Dakota	2% of gross receipts of retail sales of tangible personal property; extends to public utilities and amusements.
*Utah	2% of gross receipts of retail sales of tangible personal property; extends to public utilities, amusements, lodgings and meals.
*Washington[a]	3% of gross receipts of retail sales of tangible personal property. 0.25% of gross income of extractors, manufacturers, retailers, printers and publishers, and wholesalers; except wholesalers of grain, 0.01%; miscellaneous businesses and professions, 0.5%; mechanical devices involving skill, 10%, involving only chance, 20%.
West Virginia[a]	2% of gross receipts of retail sales of tangible personal property; extends to services except professional and personal services; 50¢ exemption on food purchases. 0.5% of gross receipts of retailers; 0.15% of gross receipts of wholesalers; 1–6% of gross income of other kinds of business.
*Wyoming	2% of gross receipts of retail sales of tangible personal property; extends to public utilities, amusements, lodging and meals.

[a] Washington and West Virginia have both a retail sales and gross receipts tax.

* Complementary use tax.

collected $135,000,000 or almost one-fourth of total state collections from general sales and use taxes.

The only important legislation in this field was the 10 per cent "bootleg" or "black-market" tax in Mississippi on the gross proceeds of retail and wholesale sales of goods "the sale or distribution of which is prohibited by law." The primary purpose of the tax is to collect revenue from the sale of bootleg liquor in dry Mississippi. Mississippi also exempted municipal and county purchases for government purposes from the 2 per cent state sales tax. Louisiana reenacted permanently its 1 per cent emergency sales tax of 1942.

The United States Supreme Court handed down three important decisions involving the application of state general sales or related taxes. The right of the state to tax was upheld in the International Harvester case, involving the imposition of the Indiana gross income tax upon certain types of sales completed within the state, and in the General Trading Company case in which a foreign corporation shipping goods from outside the state to fill orders solicited by traveling salesmen was held liable for collection of the Iowa use tax. In the third case, McLeod *v.* Dilworth, the Court voided the imposition of the Arkansas gross receipts tax on purchases by residents of the state from a non-resident, where the transfer of ownership took place outside the state. While such a transaction might be made liable for a use tax, the court stated that the Arkansas tax was by nature a sales tax and was not applicable. A second case decided against the state; was Southern Pacific Company *v.* Utah State Tax Commission, where the Utah Supreme Court held the state use tax inapplicable to meals served by railroad companies to train crews of interstate trains passing through Utah. The United States Supreme Court denied certiorari on Jan. 2, 1945.

GASOLINE AND MOTOR FUEL TAXES

Revenues from motor fuel taxes (Table VII) continued the downward trend started in 1942, although the decrease in the 1944 fiscal year was only 11.1 per cent compared to decreases of 26.7 per cent and 17.5 per cent in the two previous years.

Louisiana, Mississippi, New York, and Virginia passed important amendments to their motor fuel tax laws in 1944. Louisiana exempted tractor fuel from its motor fuel taxes and the kerosene tax, and exempted gasoline used outside the state by interstate

TABLE VII

STATE GASOLINE TAX RATES

State	Cents per Gallon	State	Cents per Gallon	State	Cents per Gallon
Alabama	6	Maine	4	Oklahoma	5.5
Arizona	5	Maryland	4	Oregon	5
Arkansas	6.5	Massachusetts	3	Pennsylvania	4
California	3	Michigan	3	Rhode Island	3
Colorado	4	Minnesota	4	South Carolina	6
Connecticut	3	Mississippi	6	South Dakota	4
Delaware	4	Missouri	2	Tennessee	7
District of Columbia	3	Montana	5	Texas	4
Florida	7	Nebraska	5	Utah	4
Georgia	6	Nevada	4	Vermont	4
Idaho	5.1	New Hampshire	4	Virginia	5
Illinois	3	New Jersey	3	Washington	5
Indiana	4	New Mexico	5	West Virginia	5
Iowa	3	New York	4	Wisconsin	4
Kansas	3	North Carolina	6	Wyoming	4
Kentucky	5	North Dakota	4		
Louisiana	7	Ohio	4		

TABLE VIII

STATE TOBACCO TAX RATES

State	Cigarettes	Cigars	Other Tobacco Products
Alabama	3¢ per pack of 10 to 20 cigarettes	$1 to $13.50 per 1,000, small cigars, 1¢ for each 10 cigars	Smoking tobacco, 1¢ for each 5¢ or fraction thereof of retail price; chewing tobacco and snuff, ½¢ on each 5¢ or fraction thereof of retail price.
Arizona	2¢ on each 20	5¢ cigars, 1¢ each 3; over 5¢, 1¢ each; small cigars, 2¢ each 20	Tobacco and snuff; 1¢ per ounce; cavendish, plug or twist, ¼¢ per ounce.
Arkansas	$2.50 per 1,000		
Connecticut	1 mill each		
Delaware	1¢ per 10		
Florida	1½ mills each;* 2 cents per package of 10;* 3¢ per package of 20		
Georgia	1½ mills each*	$1 to $13.50 per 1,000; small cigars, 1¢ per 10	
Illinois	1 mill each		
Iowa	1 mill each*		Cigarette papers; 1½¢ per 50; cigarette tubes, 1¢ per 50
Kansas	2¢ per 20		
Kentucky	1¢ per 10¢ of retail selling price		
Louisiana	2½ mills each	$3 to $27 per 1,000; small cigars, .75 per 1,000	Smoking tobacco, 1¢ per 5¢ of retail price up to 10¢; over 10¢ retail price, 1⅓¢ per 5¢ of retail price.
Maine	1 mill each		
Massachusetts	1 mill each		
Mississippi	1/5 of 1¢ each	1¢ for each 5¢ of retail selling price	Smoking tobacco, 1¢ for each 5¢ of retail selling price
New Hampshire	15% of retail price	15% of retail price	15% of retail price
New Mexico	1¢ per package of 10; 2¢ per package of 20	1¢ on each cigar retailing for more than 6¢; small cigars, 2¢ on each 20	
New York	1¢ for each 10		
North Dakota	1½ mills each*		Snuff, 2¢ per 1¼ ounce; cigarette papers, ½¢ per 50
Ohio	1¢ per 10		
Oklahoma	2½¢ per 10	$5 to $10 per 1,000; small cigars, 1¢ per 10	Smoking and chewing tobacco, 20% of list price
Pennsylvania	1¢ per 10		
Rhode Island	1 mill each		
South Carolina	1½ mills each	$3–$10 per 1,000; small cigars, 1¢ per 10	Snuff and chewing tobacco, 1¢ per 3 ounces; smoking tobacco, 1¢ per 5¢ of retail selling price
South Dakota	1½ mills each*		Cigarette papers, ½¢ per 50; cigarette tubes, 1¢ per 50
Tennessee	1½ mills each*	$1–$13.50; small cigars, 1¢ per 10	Tobacco and snuff, 5% of retail sales price
Texas	$1.50 per 1,000*		
Utah	1 mill each*		Cigarette papers, ½¢ per 50; cigarette tubes, 1¢ per 50
Vermont	1 mill each		
Washington	1 mill each*		
Wisconsin	1 mill each*		Cigarette papers, ½¢ per 50; cigarette tubes, 1¢ per 50

* Special rates for oversize cigarettes.

airlines through the expedient of making such airlines licensed distributors. Both Louisiana and Mississippi limited the tax exemption on sales of motor fuel to the United States Government. New York extended the two separate one cent per gallon emergency taxes on motor fuel.

The only important court decision with regard to motor fuel was Texas Company *v.* Siefried in which the Wyoming Supreme Court held that gasoline transported into Yellowstone National Park to be sold and delivered there is subject to the Wyoming gasoline tax.

TOBACCO TAXES

Taxes on cigarettes and other tobacco products, levied by 31 states (Table VIII), continued their upward trend until the closing months of 1944, when the cigarette shortage began to make itself felt. No state laws or court decisions of any significance in this field were reported for 1944. An important administrative development was the agreement negotiated with the War Department by the National Tobacco Tax Conference, representing the 31 tobacco tax states, virtually eliminating the sale of state tax-free cigarettes to civilians by Army post exchanges. It is estimated that this development will save the states several million dollars in taxes each year for the duration of the war, and will end unfair discrimination against civilians not having access to post exchanges.

ALCOHOLIC BEVERAGE TAXES

Revenues from alcoholic beverage taxes declined from $280,000,000 in 1943 to $267,000,000 in 1944, as result of liquor shortages and rationing. However, marked increases are noted for the closing months of 1944 as a result of the August "liquor holiday," and further periods in which production of beverage alcohol is permitted may lead to a continuation of the rise in beverage taxes in 1945. A shift is noticeable from consumption of distilled spirits to beer and wine, but since taxes on the latter two are substantially lower, increases there have not offset the decreases in tax collections on distilled spirits.

The most important tax legislation affecting alcoholic beverages is the so-called "bootleg" tax in Mississippi described in the sales tax section. Virginia, having repealed a previous wine tax in 1942, enacted a new tax at the rate of 35¢ per gallon on all wine sold by the Alcoholic Beverage Control Board.

PERSONAL INCOME TAXES

Personal income taxes, now levied by 32 states and the District of Columbia, increased in amount by 15 per cent in 1944, compared to an 18 per cent increase in 1943. In relative importance, individual income taxes now amount to 6.3 per cent of total state tax revenues.

Several changes in rates are reflected in Table IX. The most important is the rate reduction in Mississippi, which now levies the tax at the rate of 1 per cent on the first $4,000 of taxable income, with a maximum rate of 6 per cent applying to income above $25,000. Unqualified credits for medical expenses and insurance of $200 for a single person and $300 for a married person or head of family are allowed regardless of whether or not the expenses are incurred. The 25 per cent reduction of the New York tax, originally enacted in 1942, was extended to apply to 1944. The flexible formula adopted in Oregon, which resulted in a 75 per cent reduction of each tax payment in 1943, provided a reduction of only 30 per cent in 1944. An initiative petition to repeal the North Dakota state income tax failed to pass.

INHERITANCE, ESTATE AND GIFT TAXES

Collections from death and gift taxes amounted to $112,000,000 in the fiscal year ended June 30, 1944. This represents a slight increase over 1943, but no conclusions can be drawn from this fact since collections from this source are naturally subject to wide fluctuation. No important legislative developments occurred in 1944. Estate tax rates are shown in Table X.

TABLE IX

STATE PERSONAL INCOME TAXES

State	Rate	Maximum Rate Applies to Income Over	Exemptions		
			Single	Head of Family	Dependents
Alabama	1.5–5	$ 5,000	$1,500	$3,000	$300
Arizona	1–4.5	9,000	10[a]	20[a]	4[a]
Arkansas	1–5	25,000	1,500	2,500	400
California	1–6	30,000	1,000	2,500	400
Colorado	1–6[b]	10,000	1,000	2,500	400
Delaware	1–3 1% additional emergency tax on gross income	10,000	624	2,000	200
District of Columbia	1–3	20,000	1,000	2,500	400
Georgia	1–7	20,000	1,000	2,500	400[c]
Idaho	1.5–8	5,000	700	1,500	200
Iowa[d]	1–5	4,000	10[a]	20[a]	5[a]
Kansas	1–4	7,000	750	1,500	200
Kentucky	2–5	5,000	1,000	2,500	400
Louisiana	2–6	50,000	1,000	2,500	400
Maryland[e]	2% on ordinary income 5% on investment income		1,000	2,000	400
Massachusetts	6% on interest; 1.5% on annuities & earned income; 3% on capital gains; plus 10% of tax.		2,000	2,500	250[f]
Minnesota	1–10	20,000	10[a]	30[a]	5[a]
Mississippi	1–6	25,000	1,200[j]	2,800[j]	400
Missouri	1–4	9,000	1,000	2,000	200
Montana	1–4	6,000	1,000	2,000	300
New Hampshire	Average rate on real estate applies to income from intangibles		200	200	...
New Mexico	1–4	100,000	2,500		200
New York	3–7	9,000	1,000	2,500	400
North Carolina	3–7	10,000	1,000	2,000	200
North Dakota	1–15	15,000	500	1,500	200
Ohio	5% on income from intangibles		No exemption	....	...
Oklahoma	1–9	8,000	850	1,700	300
Oregon	2–7[g]	4,000	800	1,500	300
South Carolina	2–5[h]	6,000	1,000	1,800	200
Tennessee	4% on dividends from corporations, 75 per cent of whose property is taxable in the state; 6% on other dividends and interest		No exemption	....	...
Utah	1–5	4,000	600	1,200	300
Vermont	4% on interest and dividends, 2% on other income[i]		1,000	2,000	250
Virginia	1.5–3	5,000	1,000	2,000	200
Wisconsin	1–7	12,000	8[a]	17.50[a]	4[a]

[a] Deduction from tax.

[b] Plus 2% surtax on resident's income from dividends, royalties and interest.

[c] Denied deduction for minors having income exceeding $300 from a trust.

[d] In case of dependent father, mother, or grandparent taxpayer may substitute for the $5 deduction from the tax a deduction of $300 in computing net income. 50% credit allowed for taxes payable in 1943 and 1944; 10% flat deduction to small taxpayers discontinued.

[e] 2½% of allowable deductions and personal exemptions are deducted from gross tax; 50% credit allowed for taxes payable on 1943 income.

[f] Exemptions apply against earned income only. In case of income derived from various intangibles there shall be exempt $1,000 "received by a person whose total income from all sources does not exceed $1,000 during the year; but said exemption shall not be given to any married person if the combined income of both husband and wife from all sources exceeds $1,500."

[g] 30% discount allowed against taxes payable on 1944 income.

[h] Plus surtax on interest and dividends of 3% on income between $500 and $800, 4% on income between $800 and $12,000, 5% on income over $12,000. Exemption for surtax only is $500.

[i] If income is derived wholly from interest and dividends, personal exemptions shall be $400 for single persons and $800 for married persons except when entire net income exceeds $1,500 for single persons and $3,000 for married persons.

[j] Includes $200 single and $300 head of family unqualified deduction for medical expenses and insurance.

TABLE X

ESTATE TAXES

State	Rate	Exemption
Alabama	4/5–16	$100,000
Arizona	4/5–16	100,000
Colorado	4/5–16	100,000; tax levied only if estate exceeds $250,000
Florida	4/5–16	100,000
Georgia	4/5–16	100,000
Mississippi	4/5–16	50,000
New York	1–20	20,000 to husband and wife, 2,000 to ancestors and descendants 5,000 to minor descendants
North Dakota	2–23	20,000 to husband and wife 2,000 to ancestors and descendants 2,000–5,000 to minor descendants
Oklahoma	1–10	15,000
Oregon	1–15	10,000
Rhode Island	1	10,000
Utah	3–10	10,000

TABLE XI

STATE TAXES ON THE NET INCOME OF CORPORATIONS

State	Rate in %	State	Rate in %	State	Rate in %
Alabama	3[a]	Maryland	1½[f]	New York	6[j]
Arizona	1–5	Massachusetts	2½[g]	North Carolina	6
Arkansas	1–5	Minnesota	6[h]	North Dakota	3–6
California	4[b]	Mississippi	1–6	Oklahoma	6
Colorado	2	Missouri	2	Oregon	2[k]
Connecticut	2[c]	Montana	3[i]	Pennsylvania	4
District of Columbia	5	New Hampshire	Average property tax rate on intangible income	South Carolina	4½[l]
Georgia	5½[d]			Tennessee	3¾[m]
Idaho	1½–8			Utah	3[n]
Iowa	2			Vermont	2
Kansas	2			Virginia	3
Kentucky	4			Wisconsin	2–6[o]
Louisiana	6[e]	New Mexico	2		

[a] Exemption of $1,000.

[b] Minimum tax of $25. 15% credit allowed against bank and corporation franchise taxes for 1944.

[c] $10 minimum; tax is not to be less than one mill on sum of interest bearing debt, capital stock, surplus, undivided profits, and reserves, less deficit and stocks and securities held.

[d] Tax is not to be less than 2 per cent of entire net income plus compensations to officers and to stockholders owning in excess of 5 per cent of the stock after deducting $10,000 and deficit if any.

[e] Exemption of $3,000.

[f] 33⅓% credit allowed for 1942, 1943, 1944 after computation.

[g] Minimum is not to be less than 1/20 of 1 per cent on capital stock. Additional tax of 10% of tax computed, extended through 1946.

[h] Exemption of $1,000.

[i] Minimum tax of $5. Corporations ceasing to do business in state pay 3% on last year's net income.

[j] 3% on income from dividends. Maximum tax of $25. or 1 mill per dollar on capital stock.

[k] Minimum tax of $10.

[l] Minimum tax of 3 per cent of net income plus salaries and compensation paid to officers and to any stockholder owning in excess of 5 per cent of capital stock after deducting $6,000 and any deficit reported for the year.

[m] Or tax on capital stock, whichever is greater.

[n] Minimum tax of $10, tax is not to be less than 1/20 of 1 per cent of value of tangible property.

[o] Plus certain surtaxes.

CORPORATION INCOME TAXES

Revenue from corporation income taxes and franchise taxes measured by net income rose even more sharply in 1944 than in 1943. The increase amounted to 26 per cent compared to 25 per cent the previous year. These taxes now provide 8 per cent of total state tax revenues, whereas in 1939 they were only 3.4 per cent.

The most important legislation was the enactment of a new corporation franchise tax law in New York. Previously, investment trusts and holding companies were specially taxed, while under the new law all corporations will henceforth pay the tax at the rate of 6 per cent on ordinary income and 3 per cent on income derived from dividends. This "temporary" rate of 6 per cent was extended to apply to the year beginning Nov. 1, 1945. A second important feature of the law is the adoption of the so-called "double allocation formula" for the apportionment of income arising from business in several states. The "Massachusetts" formula is used for allocation of business income, but a special formula has been developed for investment income. Under the old law, the tax was paid for the privilege of doing business in the following year, but by a temporary freezing of the privilege year the income year and privilege year will now coincide. The base of the tax was broadened by extending the definition of "doing business in the state." New rules have been issued for the treatment of income adjustments resulting from renegotiation of war contracts.

The reduction in rates in Mississippi, described in the personal income tax section, is equally applicable to corporation income.

Important court decisions during the year included the United States Supreme Court ruling upholding the imposition of the Wisconsin "privilege dividend tax" on distribution to out-of-state stockholders of Wisconsin income of an out-of-state corporation; several state supreme court decisions approving taxation of the income of interstate pipeline companies; and decisions upholding the "unitary business" concept in the application of allocation formulas, already approved by the United States Supreme Court in Butler Brothers *v.* McColgan.

TABLE XII

STATE TAXES ON THE NET INCOME OF BANKS

State	Rate %
Alabama	6
Arizona	5
California[a]	4–8
Colorado	6
Connecticut	2
Idaho	1, 5-8
Massachusetts	6
Minnesota	8
New York[b]	4½
North Dakota	4
Oklahoma	1–6
Oregon	2
Rhode Island	4
South Carolina	4½
South Dakota	3
Utah	3
Wisconsin[c]	2–6 and surtax

[a] Less 15% credit for 1944.
[b] Does not apply to savings banks.
[c] Does not apply to mutual savings banks.

TABLE XIII

STATE TAXES ON CHAIN STORES

State	Maximum Tax	Applicable to Each Store
Alabama	$112.50	20
Colorado	300	24
Delaware	$10 plus 10¢ for each $100 of aggregate cost value of goods in excess of $5,000.	
Florida	400	15
Georgia	200	40
Idaho	500	19
Indiana	150	20
Iowa	155	50
Kentucky	200	250
Louisiana	550	500
Maryland	150	20
Michigan	250	25
Mississippi	300	250
Montana	200	4
North Carolina	250	200
South Carolina	150	30
South Dakota	150	50
Tennessee	$3 for each 100 square feet of floor space	1
Texas	750	50
West Virginia	250	75

MISCELLANEOUS TAXES

Bank and chain store taxes (Table XII and XIII) show no significant legislative changes in 1944, and have no great fiscal significance as taxes apart from general corporation taxes. Rhode Island imposed an additional ½ per cent on pari-mutuel betting, the revenues of which were negligible after Jan. 3, 1945, and Louisiana, Mississippi, and Virginia made minor alterations in their business license taxes. A trend appeared to develop during the 1943 and 1944 legislative sessions toward increased taxation of slot machines and other organized games of chance.

TAXATION OF AIRLINES

Considerable attention during the year was focused on taxation of aviation, primarily as a result of the United States Supreme Court decision in the Northwest Airlines case. This ruling permitted Ramsey County, Minnesota, to tax the entire fleet of airplanes of the Northwest Airlines Company, despite the fact that only about 1/6 of the flying was done within the State of Minnesota. The resulting possibilities of multiple taxation impelled Congress to direct the Civil Aeronautics Board on July 3 to study the problem of multiple taxation of interstate airlines and to report back to Congress at the end of the year. Committees concerned with this same problem were established by the National Association of Tax Administrators, the North American Gasoline Tax Conference, the National Association of Assessing Officers, the National Tax Association, and the Council of State Governments. These committees all worked closely with the research staff of the Civil Aeronautics Board, and their reports prior to the end of the year indicated the probability that Congress will be urged to provide for allocation of the value of flight equipment of interstate airlines among the states in which each airline operates. Action will probably be taken by Congress and by a number of the 44 state legislatures meeting in 1945, but it is too early to predict what that action will be.

ADMINISTRATION

The most important change in state tax agencies in 1944 was the creation of a unified state Department of Taxation and Finance in New Jersey. The former State Tax Department becomes a division of the new department which also includes divisions of budget and accounting, purchase and property, local government, and tax appeals. The change appears as yet to have had little effect on the internal operations of the Division of Taxation or the Board of Tax Appeals.

The voters in Idaho in the November election approved the creation of a four-man Tax Commission to take over the functions of the State Board of Equalization. A Louisiana law transferred the assessment of public utilities and common carriers, except by water, from local assessing officials to the State Tax Commission. The establishment in Kentucky of a Department of Alcoholic Beverages relieves the Department of Revenue of alcoholic beverage control functions, while it retains the administration of taxes on alcoholic beverages.

STUDY COMMITTEES

Recognizing the need to set their counting houses in order for the postwar period, several state legislatures have set up special study committees to investigate, report on, and make recommendations concerning the general tax structure of the state or particular taxes. Among the states where tax studies of this sort are underway as a result of action by 1944 or previous legislatures, or of administrative action, are Georgia, Illinois, Indiana, Maine, Michigan, Missouri, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, and Virginia. Legislation may be expected in the 1945 legislative sessions of many states as a result of the work of these committees.

MUNICIPAL FINANCE

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GENERAL

An examination of the financial condition of municipalities for the year 1944 shows definite signs of a continuation of the improvement which began in 1934. This further improvement is indicated especially by a decline in tax delinquencies and a decrease in the number of defaults. As might be expected, war has made an imprint upon municipal finance. Among the most conspicuous of these effects are the reductions in expenditures for welfare and outlays.

MUNICIPAL EXPENDITURES

(000 omitted)

Operation and Maintenance, by Major Functions

Year	Total	General Government	Public Safety	Health and Sanitation	Highways
1942[1]	$1,546,634	$125,903	$358,937	$137,228	$ 93,512
1940[1]	2,193,915	168,712	350,462	139,498	108,537
1938[1]	2,167,459	163,089	346,168	136,956	111,979
1936[1]	1,838,803	150,213	317,154	141,207	108,910
1934[1]	1,744,975	135,766	298,758	134,296	111,306
1932[1]	1,806,517	149,909	328,797	160,010	127,670
1929	1,730,288	140,521	339,816	174,858	147,375
1927	1,562,615	136,848	315,362	160,259	137,892
1924	1,287,484	111,856	259,275	130,388	109,807
1922	1,155,691	105,174	234,199	115,488	98,763
1919	697,319	72,585	146,763	75,847	65,003
1915	546,568	62,793	120,696	55,758	60,615
1911	452,899	53,766	106,120	45,691	52,214
1907	367,367	42,703	87,885	36,899	42,718
1903	278,173	30,842	71,020	25,807	34,208

[1] Statistics for 1932 to 1942 are for cities having a population over 100,000. All other data are for cities over 30,000. Because of some changes in the basis of classification, the figures for 1937, 1938, 1939, 1940, and 1942 are not strictly comparable with those for earlier years. Beginning with 1937, the financial statistics of public-service enterprises were reported separately from those of general government.

Year	Charities, Hospitals, and Corrections	Schools	Libraries	Recreation	Miscellaneous
1942	$345,841	$377,123	$21,339	$55,737	$ 31,014
1940	500,003	631,432	25,813	65,679	203,779
1938	508,134	625,032	25,519	64,946	185,637
1936	366,466	571,922	21,119	52,303	109,504
1934	345,214	526,864	20,271	48,306	124,194
1932	234,419	629,353	.....[1]	63,117	113,242
1929	116,147	622,587	23,029	61,863	94,091
1927	99,806	560,668	20,167	53,839	77,731
1924	79,239	475,725	15,782	41,819	63,590
1922	76,627	422,843	14,326	38,703	49,603
1919	53,262	216,701	9,079	24,204	33,870
1915	38,285	162,332	7,134	20,416	18,535
1911	30,647	127,604	5,939	17,114	13,801
1907	24,408	102,395	4,989	11,794	13,572
1903	18,280	80,853	4,067	7,457	5,634

[1] Expenditures for libraries and schools combined in 1932.

EXPENDITURES

The most recent year for which the comprehensive statistics of the Bureau of the Census in final report form are available is for 1942.

While some of the absolute expenditures just noted may appear large, yet too great significance should not be attached to them. The size of an expenditure becomes intelligible in terms of service when one discovers the number among whom it is divided. The per capita expenditures of cities, both as a whole and for particular items have varied greatly from time to time, but the general tendency has been to increase. The following table shows the change in per capita expenditures for selected years:

PER CAPITA EXPENDITURES

Year	Total	General Government	Public Safety	Health and Sanitation	Highways	Charities, Hospitals, and Corrections	Education Schools*	Libraries**	Recreation**	Miscellaneous*
1942	$40.71	$3.31	$9.45	$3.61	$2.46	$ 9.10	$ 9.93	$ .56	$1.47	$ .82
1940	57.75	4.44	9.22	3.67	2.86	13.16	16.62	.68	1.73	5.37
1938	57.36	4.32	9.16	3.62	2.96	13.45	16.54	.68	1.72	4.92
1936	48.83	3.99	8.43	3.75	2.89	9.73	15.19	.56	1.39	2.91
1934	46.43	3.61	7.95	3.57	2.97	9.18	14.56	...	1.29	3.30
1932	47.87	3.97	8.71	4.24	3.38	6.21	16.68	...	1.67	3.00
1929	43.45	3.66	8.46	4.33	3.70	2.78	16.14	.59	1.55	2.25
1927	40.77	3.46	8.13	4.13	3.60	2.49	15.08	.53	1.40	1.94
1924	35.61	3.01	7.10	3.55	3.07	2.08	13.52	.44	1.15	1.67
1922	33.15	2.94	6.66	3.25	2.87	2.08	12.50	.41	1.09	1.34
1919	21.63	2.22	4.53	2.34	2.04	1.59	6.88	.28	.74	1.01
1915	18.45	2.10	4.06	1.86	2.06	1.26	5.58	.24	.68	.61
1911	17.62	2,08	4.12	1.77	2.04	1.17	5.04	.23	.65	.53
1907	15.95	1.86	3.80	1.59	1.91	1.05	4.42	.21	.51	.59
1903	13.19	1.46	3.35	1.21	1.64	.86	3.86	.10	.35	.27

* Payment for pensions are included in column "Miscellaneous" for the years 1911 to 1928 inclusive; for the years 1903 to 1909 inclusive, they are included with expenses of police, fire, and school departments.

** Payments for expenses of art galleries and museums are included in column "Recreation" for the years 1911 to 1928 inclusive; for the years 1903 to 1909 inclusive, they are included with the expenses of libraries; expenditures for libraries and schools are combined for the years 1932 to 1935.

IMPORTANCE OF DIFFERENT MUNICIPAL EXPENDITURES

There is a wide difference in the importance attached to the different functions performed by municipalities. While over a period of years there has been some change in the relative importance of some of the items, it is interesting to note that expenditures for education have always been larger than any other, and that the relative importance of this item up to 1932 tended to increase with the years. The most significant development in recent years, it will be noted, is the increase in expenditures for charities, hospitals, and corrections. The following table (p. 265) shows the relative importance of the different services over a period of years.

SOURCES OF REVENUE

Property Taxes.—The revenue of cities arises from a number of sources. In most cities more than 90 per cent of the funds which go into the general revenue fund come from the general property tax. This is a tax levied against real and personal property. In addition to the general property tax the Census Bureau designates certain taxes as special property taxes. Such include taxes upon the capital stock of corporations, upon savings banks and other financial institutions, and upon insurance companies. Included in this, also, would be taxes levied upon mortgages at time of recording, taxes upon incomes and estates, upon investments, and a wide range of specific taxes.

PERCENTAGE OF EXPENDITURES FOR DIFFERENT FUNCTIONS

Year	General Government	Public Safety	Health and Sanitation	Highways	Charities, Hospitals, and Corrections	Education Schools*	Libraries*	Recreation	Miscellaneous
1942	8.1	23.2	8.9	6.0	22.4	24.4	1.4	3.6	2.0
1940	7.7	16.0	6.3	4.9	22.7	28.8	1.2	3.0	9.4
1938	7.5	16.0	6.3	5.2	23.4	28.8	1.2	3.0	8.5
1936	8.2	17.2	7.7	5.9	19.9	31.1	1.1	2.8	6.0
1934	7.8	17.1	7.7	6.4	19.8	31.4	...	2.8	7.1
1932	8.3	18.2	8.9	7.1	13.0	34.8	...	3.5	6.3
1929	8.4	19.5	10.0	8.5	6.4	37.2	1.4	3.6	5.2
1927	8.5	20.0	10.1	8.8	6.6	37.0	1.3	3.4	4.8
1924	8.5	19.9	10.0	8.6	5.9	38.0	1.2	3.2	4.7
1922	8.9	20.1	9.8	8.7	6.3	37.7	1.2	3.3	4.0
1919	10.2	21.0	10.8	9.4	7.3	31.8	1.3	3.4	4.7
1915	11.4	22.0	10.1	11.2	6.8	30.2	1.3	3.7	3.3
1911	11.8	23.4	10.1	11.6	6.6	28.6	1.3	3.7	3.0
1907	11.7	23.8	9.9	12.0	6.6	27.7	1.3	3.2	3.6
1903	11.1	25.3	9.2	12.4	6.5	29.3	1.5	2.7	2.1

* Percentages for schools and libraries combined for the years 1932 to 1935.

Poll and Business Taxes.—In many cities, also, some form of poll tax continues to be used, although such taxes are much less important than formerly. No generalization can be made as to method of levy since this varies greatly from city to city. In addition, business and non-business license taxes make up a large group of levies upon different types of business activities, some of which, of course, are levied primarily for regulative purposes. The latter include such levies as those upon dogs, dance halls, etc. Receipts from special assessments constitutes an important item, but they do not enter the general revenue fund. In some places at a particular time subventions and grants are an important source of income, while in some cities, also, the earnings from public enterprises are not unimportant. The relative importance of the major sources of revenue over a period of years is shown in the following table:

PERCENTAGE OF RECEIPTS FROM DIFFERENT SOURCES OF REVENUE

Year	The General Property Tax	Other Taxes and Licenses	Special Assessments	Subventions and Grants, Donations and Pension Assessments	Earnings of Public Service Enterprises[2]	Other Revenues
1942[1]	65.2	9.8	1.2	17.4	....	6.4
1940	63.4	7.7	1.0	18.3	....	9.6
1938	64.7	8.1	1.1	16.1	....	10.0
1936	59.7	7.9	1.6	14.3	10.4	6.1
1934	62.6	5.3	2.2	13.5	9.8	6.6
1932	66.2	4.7	3.9	8.5	9.3	7.4
1929	64.7	6.4	7.2	5.8	9.8	6.1
1927	66.1	5.7	7.7	4.9	9.6	6.2
1924	66.1	5.7	5.9	5.3	10.3	6.8
1922	66.9	5.2	4.8	5.9	9.0	8.2
1919	66.0	7.6	5.6	4.1	10.2	6.4
1915	62.4	7.8	8.5	4.2	10.0	6.9
1911	61.9	8.7	8.4	4.6	10.6	5.8
1907	59.4	10.6	8.2	4.8	11.2	5.8
1903	61.4	9.8	7.6	4.3	11.5	5.5

[1] For all cities having populations over 25,000.
[2] Listed separately in years 1937 to 1942.

PER CAPITA TAX BURDEN

That the tax burden imposed by cities has been increasing much more rapidly than population is readily seen when one notes the change in the per capita amounts collected from different sources over a period of years.

PER CAPITA RECEIPTS FROM DIFFERENT SOURCES

Year	Total	The General Property Tax	Other Taxes and Licenses	Special Assessments	Subventions and Grants, Donations, and Pension Assessments	Earnings of Public Service Enterprises[2]	Other Revenues
1942[1]	$49.79	$32.45	$4.89	$....	$ 8.65	$....	$3.80
1940	74.15	47.04	5.71	.71	13.52	....	7.17
1938	74.28	48.02	5.97	.82	11.99	....	7.48
1936	76.83	45.83	6.03	1.21	10.95	8.03	4.78
1934	72.13	45.17	3.77	1.61	9.71	7.09	4.78
1932	68.82	45.57	3.24	2.70	5.84	6.42	5.03
1929	69.63	45.07	4.43	5.01	4.02	6.82	4.28
1927	69.77	46.09	3.95	5.36	3.40	6.67	4.29
1924	58.41	38.59	3.33	3.43	3.12	6.00	3.96
1922	53.57	35.85	2.80	2.58	3.13	4.83	4.38
1919	35.26	23.29	2.68	1.98	1.43	3.61	2.27
1915	30.00	18.73	2.36	2.54	1.26	3.03	2.08
1911	28.07	17.37	2.44	2.35	1.30	2.98	1.63
1907	24.67	14.64	2.63	2.02	1.18	2.77	1.43
1903	21.14	12.98	2.06	1.60	.91	2.42	1.16

[1] For all cities having populations over 25,000.
[2] Listed separately in years 1937 to 1942.

MUNICIPAL INDEBTEDNESS

Receipts from sources of revenue may either just pay expenses, more than pay expenses, or fail to pay them. In many cases the administrators of the finances have planned for a surplus but because of a shrinkage in revenue have had to resort to borrowing.

In the calculations of the Census Bureau, municipal indebtedness is divided into two distinct groups—long-term obligations and short-term loans. The former includes all obligations which have a number of years to run and for the redemption of which no assets other than a sinking fund or earnings of public-service enterprises have been specifically designated. The latter, on the other hand, includes such indebtedness as is evidenced by warrants, accounts payable, and other short-term obligations. The gross indebtedness is, of course, the total amount, while the net indebtedness is derived by subtracting from this the value of the assets in the sinking fund. The following table shows the net indebtedness for certain years.

MUNICIPAL INDEBTEDNESS

(000 omitted)

Year	Net Debt	
	Amount	Per Capita
1943[1]	$6,451,536	$169.86
1940	6,746,826	177.60
1938	6,470,850	171.23
1936	6,331,516	168.13
1934	6,380,478	169.76
1932	6,289,078	166.66
1930	5,967,563	153.02
1929	5,529,835	144.33
1927	4,943,507	134.27
1924	3,481,980	110.09
1922	3,280,645	97.57
1919	2,541,172	81.18
1915	2,245,906	77.86
1911	1,808,828	67.52
1907	1,808,878	56.04
1903	933,004	44.71

[1] For all cities having populations of more than 25,000.

BOND MARKET DEVELOPMENTS

The aggregate disposals of long-term obligations by states and municipalities for the first ten months of each year for a series of years are shown in the accompanying table. Total issues for the months covered increased from $380,990,000 in 1943 to $641,779,000 in 1944.

MUNICIPAL BOND ISSUES

(000 omitted)

Year	Total First Ten Months	Year	Total First Ten Months
1944	$ 641,779	1928	$1,094,074
1943	380,990	1927	1,297,029
1942	488,415	1926	1,149,105
1941	823,115	1925	1,174,724
1940	954,593	1924	1,280,504
1939	956,386	1923	850,952
1938	800,606	1922	990,188
1937	769,778	1921	868,392
1936	955,500	1920	570,109
1935	973,869	1919	581,871
1934	725,660	1918	245,789
1933	392,580	1917	402,828
1932	701,938	1916	402,548
1931	1,156,129	1915	434,829
1930	1,211,857	1914	423,171
1929	1,055,135	1913	327,902

Source: *Commercial and Financial Chronicle.*

FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

The table showing municipal bond issues does not include the extension grants made to municipalities for public-works projects by the Federal Emergency Administration of Public Works. This agency was created by the National Industrial Recovery Act which became effective June 16, 1933. Under Title II of this act, authority was granted to the Administrator to furnish grants, not subject to repayment, for 30 per cent of the total expenditures incurred for the payment of labor and material costs on approved public-works projects. Moreover, the agency was authorized to accept 4 per cent general obligation or revenue bonds of the municipalities as security for the loan portion of the allotment. In 1934 Congress authorized the Reconstruction Finance Corporation to purchase marketable securities from the Public Works Administration and provided that moneys realized by the Public Works Administration from such sales might be used for making additional loans, but not grants, in aid of non-Federal public-works projects under Title II of the N.I.R.A.

In addition to the program of public works administered under Title II of the National Industrial Recovery Act, the Public Works Administration carried on a separate program pursuant to the Emergency Relief Appropriation Act of 1935. Under the latter act the amount of the grant was fixed by administrative determination at 45 per cent of the cost of the project, with a corresponding reduction in the amount to be furnished by the applicant. Provision was made under this act for the sale of bonds acquired as collateral for municipal loans either on the open market or to the Reconstruction Finance Corporation, the proceeds to be used only for the making of loans. In practice the sales have been confined to the Reconstruction Finance Corporation which, in turn, has sold the securities on the open market.

TAX DELINQUENCY

Tax delinquency is a natural phenomenon of a business depression, and a rising trend of tax delinquency inevitably cripples municipal functions and weakens municipal credit. Dun and Bradstreet has made a study of the trend of median year-end tax delinquency in 150 cities of over 50,000 population for the 13-year period from 1930 to 1943. The following percentages show the median delinquency on the current tax levy at the end of each fiscal year:

1943	4.70%	1936	13.9%
1942	6.00%	1935	18.0%
1941	6.80%	1934	23.05%
1940	8.70%	1933	26.35%
1939	9.25%	1932	19.95%
1938	10.7%	1931	14.60%
1937	11.3%	1930	10.15%

These figures show a substantial gain in collections since 1933; and delinquency in 1943 was lower than it was in 1930. Only fragmentary data are available for 1944, but it is believed that little change has occurred.

DEBT DEFAULTS

The *Bond Buyer* estimated, with certain reservations, that 158 cities and towns were in default on their bonds on Dec. 1, 1944. This represents a reduction from the previous year when 166 incorporated places were in default. The following states, according to the *Bond Buyer,* had the largest number of defaults:

Florida	58	Colorado	10
Texas	23	Michigan	6
Pennsylvania	11	Oklahoma	5
North Carolina	11	New Jersey	5

It is significant to note that Florida and North Carolina, which are included in the above group, had large increases in local indebtedness between 1912 and 1932, the percentages being 2,779.01 and 1,300.8, respectively. The indebtedness of Maine during the same period increased only 73.2 per cent, while that of Massachusetts increased only 99.2 per cent. Maine had one incorporated place in default in 1944 and Massachusetts had none.

While no data are available regarding the volume of municipal bonds in default, it can reasonably be stated that the volume of such defaults has declined during the past year.

DEBT ADJUSTMENT LEGISLATION

For the purpose of aiding municipalities which are in default on their obligations, various states have recently passed state receivership and debt adjustment acts. Boards or commissions have been established to supervise local indebtedness in general, to supervise the refunding of municipal bonds, and to act as receivers in event of failure to meet debt service.

A Federal Municipal Bankruptcy Act was enacted May 24, 1934. This act, which was declared unconstitutional by the United States Supreme Court in May, 1936, was designed to enable any taxing district, with the consent of its creditors and the approval of a Federal District Court, to adjust its debt structure. According to the *Bond Buyer,* only 27 cities, one county, one school district, 41 irrigation districts, and one road district filed petitions under the Municipal Bankruptcy Act during the two years which the law was in effect.

On Aug. 16, 1937, President Roosevelt signed a new Municipal Bankruptcy Act, designed to replace the original measure which was declared unconstitutional. The present law is similar in its provisions to the invalidated law. It provides a procedure whereby insolvent taxing agencies, such as local drainage, levee, irrigation, road, and sewer districts, as well as towns, boroughs, and municipalities, may effect compositions with their creditors. These compositions would be approvable only when the districts or agencies filed voluntary proceedings in bankruptcy accompanied by plans approved by 51 per cent of all the creditors of the district or town. The plan of composition can not be confirmed unless accepted in writing by creditors holding at least 66 2/3 per cent of the aggregate amount of the indebtedness of the petitioning district or taxing agency, unless the judge is satisfied that the taxing district was authorized by law to carry out the plan and there had been a finding by the court that the plan was fair, equitable, and for the best interests of the creditors. According to the *Bond Buyer,* 269 municipalities had filed petitions under the 1937 Federal Municipal Bankruptcy Act on Dec. 1, 1944.

FEDERAL INCOME AND PROFITS TAXES

By Mark Carter Mills
Associate Professor, Indiana University

INCOME TAX LEGISLATION

Two revenue acts were passed by Congress in 1944. The first called the Revenue Act of 1943 was passed in February over the President's veto. The second, designated the Individual

Income Tax (or Tax Simplification) Act of 1944 was approved on May 29 and had the effect of modifying or striking out some of the provisions of the earlier act. Both laws were made applicable to income received in 1944.

REVENUE ACT OF 1943

The Revenue Act of 1943 passed over the President's veto by the House by a vote of 299 to 95 on Feb. 24, 1944 and by the Senate on the next day by a vote of 72 to 14 was a general revenue measure dealing not only with individual and corporation income taxes but with excises, postal rates, and the terms of war contract renegotiation. In his veto message the President criticized the failure of Congress to provide for as much additional revenue as the Treasury had requested and for failure to simplify the individual income tax. He also objected to certain tax relief provisions of the bill, using the widely quoted statement: "In this respect it is not a tax bill, but a tax-relief bill providing relief not for the needy but for the greedy."

The chief features of the law relating to individual income and excess profits taxes were as follows: normal and surtax rates on individual incomes were left unchanged from the previous law but the 10 per cent credit for earned income was abolished; the Victory Tax subsequently repealed by the Individual Income Tax Act was made a flat 3 per cent on incomes above $624 a year; normal and surtax rates on corporations were also left unchanged but the excess-profits rate of 90 per cent was raised to 95 per cent with the specific exemption from the excess profits tax raised from $5,000 to $10,000.

THE INDIVIDUAL INCOME TAX ACT OF 1944

The act was confined to the simplification of the individual income tax. The features of the act as related to simplification were summarized in House Document No. 655 (78th Congress, 2d Session) as follows:

"This year's complex tax return is eliminated for the mass of low-income wage and salary earners for whom the collector of internal revenue will compute the tax.

"Of those taxpayers who must file returns, the majority will be able to take a flat deduction in lieu of itemizing actual deductions, and many will be able to find their tax in a simple tax table on the return.

"The simplified short-form tax table under the old law has been further simplified.

"The Victory tax is repealed.

"The requirement with respect to who must file a tax return is simplified.

"An exemption will be allowed for dependents over 18 years of age without the necessity of proving that the dependent is 'incapable of self-support.'

"The problems connected with the earnings of an unemancipated child are largely eliminated.

"Withholding is modified, beginning next January 1, so as to cover the full tax liability on 4,000,000 additional taxpayers, relieving them of declarations of estimated tax.

"Uncertainty in declarations of estimated tax is reduced by moving the last filing date from December 15 to January 15.

"The special relief granted to farmers in respect to the estimated tax is extended by liberalizing the definition of farmer.

"The computation of the medical expense deduction and the maximum contribution deduction is simplified."

A new phrase used in the act is "adjusted gross income." Although the phrase is new, the concept is not essentially different from the term "total income before deductions." For those engaged in business "adjusted gross income" is gross income less those expenses incurred in gaining the income. More specifically it is defined as gross income less: business deductions; deductions attributable to rents and royalties; losses treated as losses from the sale or exchange of property; and depreciation and depletion deductions allowed to a life tenant of property or to an income beneficiary of property held in trust.

In the case of wage earners "adjusted gross income" is defined as gross wages or salary less expenses of travel or lodging in connection with employment while away from home and reimbursed expenses in connection with his employment (expenses covered by a payment from the employer which is separate from wages and not subject to withholding). For most wage earners "adjusted gross income" will be their total income.

PROBLEMS OF POST-WAR POLICY

The adoption of the pay-as-you-go plan in 1943 and the simplification promised by the Individual Income Tax Act had the effect of somewhat lessening popular discussion of the income tax during 1944 but much discussion of post-war taxation occurred among government officials, members of Congress, and organizations and individuals concerned with post-war planning. In some respects there was surprising agreement in basic assumptions and upon objectives to be achieved. It was generally agreed that the most important problem in the post-war period would be the attainment and maintenance of a high level of employment. There was also general agreement that the tax program to be followed should encourage business enterprise. There was some lack of unanimity as to how these objectives could be best attained.

In framing specific tax programs the proponents of the various plans offered ranged in their estimates of the post-war national income from $80,000,000,000 to $160,000,000,000. With the tendency on the part of most of those who attempted specific estimates to assume that a national income of around $140,000,000,000 would be necessary for a high level of employment, there was recognition that the public debt might reach $300,000,000,000 by the end of the war but lack of agreement as to the policy to be followed in handling the debt. One point of view was that of the more conservative economists who believed that it would be essential to reduce the debt as much as possible while others were inclined to put less stress upon debt reduction and to regard a permanent debt as not particularly serious so long as it was possible to pay the interest regularly. In general the latter view was held by those who believed that a policy of deficit financing and heavy Federal spending might again be necessary in case of a depression. This group also was inclined to believe that the maintenance of a predetermined level of national income should be placed ahead of an attempt to balance the budget.

Apparent in the discussions was also a difference of opinion as to whether the immediate post-war period would be one of inflation or deflation. Nor was there complete agreement as to whether the plans offered should be put into effect immediately after the close of the fighting or whether they were to be regarded as long-range policies to be put into effect within a period of two to five years after the war when the immediate problems of reconversion had already been dealt with. As suggested above, the most controversial phase of the discussion involved the question of how the Federal tax system could be most effectively used to encourage private enterprise and full employment. It was generally agreed that taxes on business in the post-war period should offer incentives to investment but it was not fully agreed as to how this could best be done.

Of the specific plans for comprehensive post-war Federal tax laws revision, those most widely publicised were: the program sponsored by the Committee for Economic Development and formulated by a research staff headed by Prof. Harold M. Groves; the Ruml-Sonne Report sponsored by the National Planning Association; and the Twin Cities Plan offered by a group of Minneapolis and St. Paul businessmen. All of these plans, as did others proposed by other groups and individuals, agreed upon the necessity of a high level of employment in the post-war period and upon the importance of a tax policy which would encourage private enterprise. The most important recommendations in each of the three plans follow.

COMMITTEE FOR ECONOMIC DEVELOPMENT

Individual Income Tax.—The Committee believed that at least half of the total Federal revenues should come from the graduated personal income tax and that this could be accomplished by maintaining a broad tax base and by the use of rates substantially lower than those in use during the war period. The Committee recommended the elimination of the 3 per cent normal tax, which would have the effect of raising personal exemptions above their present level. Retention of the present uniform surtax exemption of $500 per person was recommended. It was recommended that individuals with irregular incomes be permitted to average their incomes over a period of years for tax purposes. Although some moderation of present rates in the middle and upper brackets was suggested, various groupings of rates were offered for use under varying revenue needs. These schedules varied from 16 to 73 per cent, 18 to 75 per cent, and 20 to 77 per cent, as revenue needs might require. The plan would treat capital gains and losses substantially as at present until Federal taxes could be substantially reduced, after which capital gains should be taxed as ordinary income and full deduction of capital losses would be permitted.

Corporation Tax.—Present corporation taxes would be replaced by a single tax at a flat rate, the same as the standard rate of 16 to 20 per cent for individual incomes.

Excess Profits Tax.—The Committee recommended the repeal of the present excess-profits tax and the "declared-value capital stock excess-profits tax."

RUML-SONNE PLAN

Individual Income Tax.—The framers of this plan recommended an exemption of $500 for each taxpayer and for each dependent. A normal tax rate of 16 per cent to be combined with a surtax graduated between 1 per cent and 50 per cent was recommended. Capital gains and losses would be handled as in the present law.

Corporation Tax.—Under this plan present corporation taxes would be abolished and in their place would be substituted a franchise tax of 5 per cent of net earnings.

Excess Profits Tax.—Both the excess profits tax and the "declared value excess profits" tax would be repealed under this plan.

TWIN CITIES PLAN

Individual Income Tax.—Two alternative programs were offered depending upon whether or not a suggested 5 per cent retail sales tax was adopted. If the sales tax were adopted, an exemption of $600 for a single person, $1,400 for married persons and heads of families with $400 credit for each dependent was recommended. In this case the normal individual income tax rate would be 10 per cent, with surtaxes ranging from 6 per cent up to 50 per cent.

If the sales tax were not adopted it was proposed that the exemption for single persons should be $500; of married persons and heads of families, $1,200; with $350 credit for each dependent. The normal tax rate would be 10 per cent as in the previous case, with surtax rates starting at 6 per cent and ranging up to a maximum of 65 per cent. Capital assets would be redefined to include only those held more than six months and a uniform rate 12½ per cent would be applied to capital gains and losses in the case of both individuals and corporations. Individuals would be allowed to exclude from their gross income 40 per cent of the dividends received from domestic corporations.

Corporation Tax.—The sponsors of this plan believe substantial rates on corporate income should be continued and suggest that the present 40 per cent levy be retained.

Excess Profits Tax.—As in the case of both of the previous plans it was recommended that the excess profits tax and the "declared-value excess profits tax" be repealed.

THE HANSEN PLAN

Dr. Alvin H. Hansen of Harvard, who is also a special economic adviser to the Board of Governors of the Federal Reserve System, has offered a post-war tax program based upon the premise that the particular plan to be adopted should depend upon the phase of the business cycle in which the country found itself at the end of the transition period following the war.

In general, Professor Hansen believes that, whatever the phase of the cycle, the Federal Government should place the major reliance for the meeting of its revenue needs upon the individual income tax with substantially lower rates than those prevailing during the war. He would completely eliminate the excess profits tax but continue the ordinary corporation tax at sharply reduced rates, however. In this connection he offered alternative plans to be used according to circumstances. The first would eliminate the double taxation of corporate earnings by levying a 45 per cent tax on retained earnings but with no tax on distributed earnings. The alternative proposal would provide a system much like that already in use with a 30 per cent tax on the whole corporate income. In connection with either program, Professor Hansen would favor the elimination of all Federal excises except those on alcoholic beverages and tobacco. He would also retain customs duties as a minor revenue source.

THE LUTZ PLAN

A post-war tax program differing widely from most of the others proposed was that of Prof. Harley L. Lutz of Princeton University. Professor Lutz believes that centralization in fiscal affairs has already been carried too far and that progressive income taxation, if carried too far, will have the effect of seriously hampering private enterprise and of freezing the economic order in its present stage of development. Consequently he has proposed that the Federal Government rely for its revenue on customs receipts, excise taxes on commodities, a general sales tax, and a flat rate tax on individual gross incomes collected at the source in the greatest degree possible. Such a program, Professor Lutz believes, would also have the effect of vastly simplifying the Federal tax structure. He would also retain the social security payroll taxes. All types of inheritance taxes; business taxes, including those on business net income; taxes on individual incomes whether at proportional or progressive rates; and gasoline and motor vehicle taxes would be left to the states. As at present, property taxes along with miscellaneous revenues and state aids and grants would supply the revenue needs of the local governments. Professor Lutz would secure flexibility in the Federal revenue system by adjusting from year to year the proportional tax on individual gross incomes.

PROPOSAL TO ABOLISH CORPORATION INCOME TAXES

All of these and other plans for post-war taxation contained varied provisions regarding taxes which are outside the scope of this survey. All were alike in their emphasis upon the central importance of the individual income tax in the Federal tax system. Two, the Committee for Economic Development Plan and the Ruml-Sonne Plan, proposed a radical departure from present methods by recommending that corporate income no longer be regarded as a major revenue source. This proposal has aroused much controversy. It is obvious that unless revenue needs were greatly reduced the abolition of the corporation tax would increase the pressure upon the individual income tax.

Those who advocate the abolition of the corporation tax and the use of the individual income tax as the major source of Federal revenue rest their case upon three main arguments: 1. Corporate income taxes raise costs and hence reduce the amount that could otherwise be paid out by business enterprises in the form of wages and dividends; 2. They cause double taxation, and by handicapping the investment of venture capital they discourage the establishment of new enterprises; and 3. They distort business judgment and lead to decisions based upon tax considerations rather than upon sound business policy.

Those who oppose the abolition of corporation taxes believe that to do so would: 1. Throw an undue burden upon the tax on individuals and that this in turn would have a far more serious effect in stifling incentive and preventing the use of venture capital than would the retention of relatively high taxes upon corporate income; 2. Because of the advantages afforded corporations individual proprietorships and partnerships would tend to disappear and small business would be absorbed by the large corporations, and problems of monopoly and of social control would become more serious than ever; and 3. Elimination of the corporation income tax would so narrow the revenue base that it would be impossible greatly to reduce the high wartime rates on personal incomes which would cause an unduly heavy burden upon incomes of less than $5,000 per year.

SOURCES OF FEDERAL RECEIPTS

(All figures are in billions of dollars and are for the fiscal years ended June 30, 1943 and June 30, 1944, respectively).

Source	Fiscal, 1943	Fiscal, 1944
Individual income tax.......	$ 6.6	$18.3
Corporate income tax.......	4.5	5.3
Excess profits taxes.........	5.1	9.5
Estate and gift taxes........	.4	.5
Employment taxes..........	1.5	1.7
Alcoholic beverages taxes....	1.4	1.6
Tobacco taxes..............	.9	1.0
Other excise taxes..........	1.4	2.2
Customs revenues..........	.3	.4
All other sources...........	1.3	4.9
Total...............	$23.4	$45.4

IMPORTANCE OF INCOME TAXES

The major reliance of the Federal Government upon the individual income and excess profits taxes in time of war and the marked increase in the receipts from these taxes from 1943 to 1944 are shown in the adjoining table.

PROPOSED 25 PER CENT TAX CEILING

There was considerable discussion during 1944 of a constitutional amendment which would make 25 per cent the top rate which the Federal Government might apply in any peacetime year upon incomes, either individual or corporate. The same limit would also be imposed upon estate and gift taxes. The movement to set such a limit started before the high wartime rates were in effect and gained momentum as the rates rose with the need for more revenue. The original purpose was to curtail Federal spending and to strengthen the position of the states. The procedure adopted, after Congress had failed to act on such a proposal some years ago, was to proceed under Article V of the Constitution which provides that, when two-thirds of the states petition Congress, a proposed amendment must be submitted to the states for ratification. The amendment would then become a part of the Constitution when it had been ratified by three-fourths of the states. By 1944 the legislatures of 17 states had acted favorably upon petitions which would require Congress to submit an amendment embodying the 25 per cent ceiling to the states for ratification. With the legislatures of 44 states due to meet during the autumn of 1944 and the winter of 1945, the proponents of the plans were hopeful that the approval of the additional 15 states necessary to require Congress to submit the amendment for ratification would be forthcoming. If adopted, the proposed amendment would be a substitute for the 16th amendment, which authorizes Federal taxation of incomes.

The proposed ceiling on Federal tax rates has been sponsored mainly by state and national taxpayer organizations and by individuals and groups who believe that better coordination in Federal, state, and local fiscal relations is already overdue. Although the matter has not yet come up for action in Congress there is naturally some reluctance to look favorably upon legislation which would curtail the powers of Congress and a belief that the project would be politically unwise. Among some who view the matter principally from the standpoint of the states there is fear of a precedent which might later lead to a similar curb upon the state governments.

The principal arguments advanced by those who support rate limitation are:

1. There would be greater likelihood of a policy of balanced Federal budgets if the amount that could be spent were limited.

2. A limitation of rates would lead to a broadening of the tax base and a more equitable distribution of the tax burden.

3. In normal times moderate rates are more productive than extremely high rates.

4. Lower and more stable rates would encourage the employment of venture capital which would in turn permit fuller and more stable employment.

5. A further argument is that a curb on Federal tax rates would leave more revenue available under state income and inheritance tax laws.

Against the proposal Treasury officials have argued:

1. A 25 per cent upper tax limit would in the course of time tend to become a uniform rate applicable to all incomes and inheritances and this would largely destroy the effort to levy taxes according to ability to pay and would in fact discriminate in favor of the rich.

2. New sources of revenue would have to be found, and these taxes by limiting purchasing power might hamper business more than higher income taxes.

3. If the amount which could be raised by Federal taxation were limited this might make it impossible to secure the funds necessary to pay off the war debt.

4. Federal grants-in-aid, which are likely to be of increasing importance after the war, would be curtailed by lack of funds. This would throw additional burdens upon the state governments and might lead to difficulties in supporting programs in the field of social security, agriculture, and highway construction and maintenance.

5. After the war, although revenue needs will remain high, the special war taxes will be removed and the proposed limitation will be unnecessary, and it would be unwise to adopt a constitutional provision which would hinder the Federal Government in meeting changing needs.

6. Even if the requisite number of legislatures necessary to compel submission of such an amendment to the states for ratification should act favorably in 1945, it would require several years to complete the process of ratification, and changed circumstances might prevent its ultimate approval.

LAND AND PROPERTY TAXES

By Robert W. Lochner
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GENERAL

Maine, New Jersey, and Virginia joined the states studying land and property taxation to make eight commissions, including those of Massachusetts, Michigan, New York, Pennsylvania, and Wisconsin, now investigating this field. A number of states, either by constitutional amendment as in California or by statutory change as in New York (Chap. 18, Laws of 1944) and New Jersey (Chap. 24, Laws of 1944), has made possible taxation of federally owned real property theretofore legally exempt even in cases where Congress had waived tax immunity, and Virginia, although removing its statutory exemption (Chap. 215, Laws of 1944), was required to initiate a constitutional amendment to withdraw the exemption (H. J. R. No. 32, Laws of 1944).

Despite the public hearings held in many places by the Committee on Public Lands of the House, no action has as yet resulted on proposals for taxation or in lieu payments on other federally owned property. In fact the field has been further narrowed by the decision of the United States Supreme Court in United States of America and Mesta Machine Company *v.* County of Allegheny, 322 U. S. 174 (decided May 1, 1944), exempting from local property taxation machinery leased to a corporation by the Federal Government.

Statutory changes in the field were less numerous by reason of the lack of regular sessions in a number of the states, such special sessions as were called being generally limited to a consideration of soldier voting.

TAX LEVIES

Personal property taxes may now be levied against the entire fleet of airplanes in a state where the home port is located (Northwest Airlines Inc. *v.* State of Minnesota, 322 U. S. 272, decided May 15, 1944). The United States Supreme Court refused to review a California case permitting property taxation of lumber imported from the Philippines (Dant & Russell Inc. *v.* Board of Supervisors of Los Angeles).

Rural electric cooperative corporations in Kentucky are subject to *ad valorem* and franchise taxes (H. B. 389, Laws of 1944). Louisiana increased its permitted levy for gravity drainage districts from 5¢ per acre to 35¢ per acre (Act 316, Laws of 1944); proposed a constitutional amendment to permit parish taxes of 2¢ per acre for forestry promotion (Act. 323, Laws of 1944); re-enacted for another two years its gas gathering tax of ½¢ per 1,000 cubic feet; and authorized special levies for memorial centers (Act 277, Laws of 1944) and municipal cemetery maintenance (Act 269, Laws of 1944) after local referendum.

Mississippi now permits a one-mill levy for library purposes outside present limitations (No. 195, Laws of 1944); and a 1¢ to 2¢ per acre levy for forestry education, timber management, and fire control under a five-year statewide program for counties (H. B. 459, Laws of 1944).

Rhode Island reduced to 24¢ per $100 as of June 1944 and 21¢ thereafter its tax limit on interest bearing deposits in banks and to 10¢ per $100 on credit union deposits (H. B. 831, Laws of 1944). Virginia brought under its capital tax, suppliers of pulp wood, veneer, logs, mine props and railroad ties (Ch. 132, Laws of 1944).

EXEMPTIONS

The trend toward increased exemptions and benefits to servicemen and veterans continued. Sales of property of members of the armed forces for real or personal property taxes is prohibited in Indiana except where the assessed value of all property owned exceeds $20,000 (Chap. 2, Laws of 1944). Louisiana's legislature requested the Tax Commission and local assessors not to increase assessments of persons serving in the armed forces for the duration and six months thereafter (House Concurrent Resolution No. 24, Laws of 1944). New Hampshire described as totally or permanently disabled its veterans eligible for the $3,000 tax exemption (Chap. 4, 1st Session, Laws of 1944). New Jersey rejected a new constitution which would have given authority to the legislature to grant veterans' exemptions.

Oregon adopted a constitutional amendment establishing the "Oregon War Veterans' Fund" to assist veterans in acquiring farms and homes, and providing a 2-mill tax for payment of state bonds issued therefor; and voted a .2-mill tax for financial aid to veterans for courses of study in schools or colleges.

Veterans mustering-out payments (Act of 1944, Chap. 9, Public Law 225) are a bonus or pension entitling exemption if used for real property purchases in New York, but death benefits (Title 10 U.S.C.A. §903) and dependents allowance (Title 37 U.S. C.A. §201) are not so, in an opinion by the counsel to the State Department of Taxation and Finance (July 6, 1944). Rhode Island clarified its veterans' exemption of $1,000 by providing for its application in full to real and tangible personal property and next to intangible personal property (H. B. No. 798, Laws of 1944).

Virginia relieved members of the armed forces from the payment of penalties and interest on personal property taxes after Jan. 1, 1941 providing that the taxpayer during all or any part of the year for which he claims exemption was a member of the armed forces (Chap. 48, Laws of 1944). Kentucky now permits exclusion of Federal bonds in determining corporate stock exemption (H.B. 206, Laws of 1944). Louisiana by proposed constitutional amendment would repeal the present three-year new home exemption (Act 314, Laws of 1944). Louisiana also provided for assessment at 10 per cent of full value of tung lands and refineries (Article 107, Laws of 1944). Mississippi granted tax exemption to factories or packing and curing plants preparing animal food supplies for human consumption (H.B. 349, Laws of 1944). New York increased from $2,000 to $3,000 its exemption on dwellings of clergymen (Chap. 529, Laws of 1944).

The American Red Cross was accorded exemption by Rhode Island from real and personal property taxes (S.B. 131, Laws of 1944). Virginia withdrew authority to grant exemptions to manufacturing establishments as provided by Chapter 119, Laws of 1930, while leaving untouched existing agreements for such exemption (Chap. 224, Laws of 1944).

ASSESSMENTS

In the course of a general revision of its taxing statutes, Virginia provided for the general re-assessment of real estate, providing varying methods and years for different sections of the state, namely, in 1946 and every fourth year thereafter in each county having a population of more than 1,000 per square mile; and in any county in any year by majority vote of the members of the Governing Body; but a general re-assessment may not be had more often than once in every four years, except that in a county adjoining a county having a density of population of 1,000 or more per square mile, a general re-assessment may not be made more often than once in every four years nor less frequently than once in every ten years (Chap. 89, Laws of 1944); and for court action where re-assessment has not been made for four years (Chap. 401, Laws of 1944).

A number of bills sponsored by the Bewley Commission in New York providing for assessment review and additional authority to the State Tax Commission over local assessors failed of passage.

ADMINISTRATION

The District of Columbia has provided for redemption of property after five years where a tax deed is not taken, and for forfeiture of tax money after notice to the tax certificate owner, who fails to apply within five years after such redemption (Laws of 1944, P.L. 233). New Jersey made several changes relating to tax liens, sales, and collections including provision for installment payment of delinquent taxes (Chap. 108, Laws of 1944). Virginia eliminated its requirement for verified returns (Chap. 157, Laws of 1944).

CORPORATION AND BANK TAXES

By Chester B. Pond
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FEDERAL TAXATION

The Revenue Act of 1943 was passed by Congress over Presidential veto Feb. 25, 1944. The act increased the estimated annual revenue by $2,100,000,000 to a total yield of $42,200,000,000. This was accomplished in part by increases in the corporation excess profits tax rate. The Revenue Act of 1943 is not a complete taxing statute in itself but consists of amendments and additions to the Internal Revenue Code and other Federal statutes. Unless otherwise expressly stated, the provisions apply to taxable years beginning after Dec. 31, 1943.

Although the greater number of changes in the Revenue Act which apply to corporations is in the excess profits tax provisions, there are some new provisions of a general nature and a few time extensions. Income tax rates on corporations remain the same. Relief provided in the 1942 Act for taxpayers employing the last-in first-out inventory valuation in the event of forced inventory liquidation was extended by the new law to taxable years beginning in 1941. Also, adjustment is permitted for years prior to the year of liquidation in order to give effect to the operations of the carry-back provisions of prior law. The deduction for contributions to organizations of war veterans, previously allowed to individuals, is extended to corporations.

The new law requires certain corporations exempt from taxation to file annual reports of their income, receipts and disbursements, and such other information, as the Commissioner of Internal Revenue may prescribe. Government agencies, as well as certain religious, charitable, educational, and fraternal organizations are exempt from this requirement. The purpose of these compulsory returns on income for taxable years beginning after Dec. 31, 1942, is to secure information to determine whether or not such corporate income is taxable.

RAILROAD REORGANIZATION

Several provisions in the 1943 act apply to special industries. The 1942 Act provided that certain losses in connection with railroad reorganizations would not be recognized, and also dealt with the basis for the taxation of property received in such reorganizations. These provisions were made retroactive to taxable years beginning after Dec. 31, 1939. The 1943 law extends this retroactive feature to taxable years beginning after Dec. 31, 1938.

TIMBER CUTTING

To section 127, a new section 117 is added which eliminates the discrimination against taxpayers disposing of timber by cutting as compared to those selling timber outright. Formerly, income realized from the cutting of timber was taxed at full income and excess profits tax rates and not at capital gains rates. The new law provides that a taxpayer may elect to consider such timber as property used in a trade or business for the purpose of section 117(j) of the Code, provided he owned such timber for a period of more than six months prior to the beginning of the year in which the timber was cut. This provision applies to all timber owned by the taxpayer or all which he has a contract to cut.

RADIO FACILITIES

The disposal of radio facilities in pursuance of an order of the Federal Communications Commission may now be treated as involuntary conversion of property. In an involuntary conversion, gain is recognized to the extent of the unexpended funds, unless the property is replaced with property of a similar nature or a replacement fund is established. The 1943 Act provides that gain from unexpended funds shall not be recognized if the taxpayer elects correspondingly to reduce immediately the basis of the remaining depreciable property.

FIRE INSURANCE

Fire insurance companies issuing perpetual or refundable single insurance premium policies exclusively are taxable under section 204, applicable to stock companies. Under this provision, such companies are not required to include single deposit premiums in income and are denied any deductions for dividends paid or declared. The amendment applies to taxable years beginning after December 31, 1941.

MINING AND MINERALS

To the mines or deposits for which a percentage depletion rate of 15 per cent is allowable, the act adds certain minerals. A rate of 23 per cent is made applicable for sulphur mines or deposits. The allowance for depletion in these cases is subject to the limitations contained in the previous provisions of section 114(b, 4). The provisions relating to the discovery value of certain mines are made inapplicable to the above mentioned types. The term "gross income from the property" is now defined to mean the gross income from mining and the definition is retroactive to 1932. This includes ordinary treatment methods applied by operators to obtain marketable mineral products. Fluor spar, flake graphite, and vermiculite are added to the list of minerals whose domestic output is exempted from excess-profits tax.

EXCESS PROFITS AND INCOME TAXES

The excess profits tax rate is increased from 90 to 95 per cent of the adjusted excess profits net income. The specific exemption for excess profits tax is changed from $5,000 to $10,000 on separate and consolidated returns. The excess profits tax credits based on invested capital are as follows:

	1943 Act	1942 Act
First $5,000,000	8%	8%
$5,000,000 to $10,000,000	6%	7%
$10,000,000 to $200,000,000	5%	6%
Over $200,000,000	5%	5%

The new law provides that the surtax net income basis for the 80 per cent limitation of normal, surtax, and excess profits tax, is to be computed without regard to the credit for income subject to excess profits tax and without regard to 80 per cent of the credit provided in section 26 (h) of the Code, the credit for dividends paid on preferred stock of public utilities. For the purpose of equalizing the effect of the changes in liability between calendar year and fiscal year taxpayers, the new law adds clarifying amendments relating to taxable years from 1941 to June 30, 1942. More definite definitions are formulated for normal tax net income, surtax net income, and dividends-received credits.

The Secretary of the Treasury is authorized and directed to establish a post-war credit to the account of each taxpayer subject to the excess profits tax. Bonds of the United States in the amount of the credit are to be issued to the taxpayer. Except in the case of a transfer to a successor corporation, post-war credit bonds are not transferable until after the termination of the war. The amount of the post-war credit in the case of a taxable year beginning in 1941 and ending after June 30, 1942, will, except as otherwise limited by section 781 (d), be 10 per cent of the amount of the prorated portion of the tentative tax.

For each fiscal year beginning after June 30, 1941, names and addresses of taxpayers receiving relief under section 722 shall be printed in the

Federal Register along with the amount of gross decrease in excess profits tax and gross increase in income tax.

NEW YORK STATE TAXATION

Few changes were made in 1944 in corporation taxation by the states, with the exception of New York. The revised New York State law for the taxation of business corporations, investment trusts and holding corporations eliminates the distinctions between investment trusts, holding companies, and business corporations, and taxes corporations at the rate of 6 per cent (4½ per cent normal and 1½ per cent emergency) on allocated net income (excluding all subsidiary income and half of non-subsidiary dividends). All corporations pay a tax on allocated subsidiary capital varying from one-half mill to one-eighth mill. Changes are made in the methods of allocating income to New York, and the privilege year has been made coincident with the income year, there being an interim tax imposed during the transition.

Several other changes were made in 1944 in New York's taxation of corporations. In taxing banks, gains or losses are to be determined on the receipt by the bank of property in complete liquidation of a corporation, 80 per cent of the voting stock of which is owned by the bank. The State Tax Commission is now authorized to enter into written agreements in respect to any tax or fee imposed on practically all corporations. These written agreements shall be final and conclusive except in cases of fraud or misrepresentation. Foreign corporations are required to designate the Secretary of State as agent for service of process in tax collection action. A limitation period was provided for assessment of franchise taxes. Certain taxes over five years old, if not assessed by a certain date, can not thereafter be assessed unless there is evidence of fraud.

OTHER STATE TAXATION

Few changes were made by other states. Mississippi reduced income tax rates on corporations. The new rates are 1 per cent on the first $4,000, 2 per cent on the next $3,000, 3 per cent on the next $3,000, etc., with a maximum of 6 per cent on incomes over $25,000. Rhode Island changed the date for filing state corporation excess tax returns from March 1 to March 15 and continued the increased rate for the year 1944. Virginia required foreign corporations to appoint the Secretary of the Commonwealth as attorney to be served with process of notice of action against them. New Jersey now validates and confirms deeds, mortgages, assignments of mortgages, releases of mortgages, and postponements of mortgages by or to corporations whose charters have been forfeited by nonpayment of state taxes.

COURT DECISIONS

A multitude of tax decisions was handed down by the numerous courts and quasi-judicial bodies in the nation. A brief review of the outstanding cases follows.

In United States *v.* Southeastern Underwriters Association, the Supreme Court, in a four-to-three decision, overruled the 75-year-old tradition that insurance is not commerce under the commerce clause of the Federal Constitution. The tax implications of this decision are vague, but some have feared that ultimately state taxation of insurance may be adversely affected by the new doctrine.

The out-of-state corporation engaged exclusively in interstate commerce is nevertheless liable to the Connecticut corporation business tax on that part of its net income attributable to Connecticut, according to a decision of the Second United States Circuit Court of Appeals.

The United States Supreme Court affirmed the decision of the Kentucky Court of Appeals holding that national banks are subject to the Kentucky Escheat Tax.

The United States Supreme Court affirmed the decision of the Wisconsin Supreme Court holding that the Wisconsin privilege dividend tax can be imposed upon payments of dividends by out-of-state corporations to out-of-state stockholders, if the tax is assessed on that portion of the declared dividend which corresponds to the amount of the corporate surplus earned in Wisconsin. The United States Supreme Court upheld the decision by the Circuit Court of Appeals not permitting the deduction of the Wisconsin privilege dividend tax in computing the base of the corporate Federal income tax.

The United States Supreme Court delimited the scope of the review of decisions of the United States Tax Court (formerly the Board of Tax Appeals), as follows: "While the decisions of the Tax Court may not be binding precedents for courts dealing with similar problems, uniform administration would be promoted by conforming to them whenever possible."

ESTATE AND INHERITANCE TAXES

By Mortimer M. Kassell
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UNITED STATES-CANADIAN DEATH TAX CONVENTION

The United States-Canadian Death Tax Convention highlighted developments in death taxation in 1944. The Tax Convention was signed by the United States and Canada on June 8, 1944, was accepted by Canada (Chapter 31, Laws of 1944), and received royal assent on Aug. 15, 1944. It was ratified by the United States Senate on Dec. 6, 1944.

The Tax Convention is designed to avoid double taxation and prevent fiscal evasion in the case of Federal estate taxes and Dominion succession duties, and is applicable principally with respect to the death taxation of corporate stock. The superior claim of the country of so-called "situs" or "origin" is recognized by provisions that shares of stock in an American corporation are property located in the United States and that shares of stock in a Canadian corporation are property located in Canada. The Convention avoids multiple death taxation by providing that both the country of domicile and the country of situs may impose a death tax with respect to such shares of stock, but that the country of domicile shall allow a credit for the death tax paid to the country of situs with respect to such shares.

STATE TAXATION

In Flournoy *v.* Wiener (321 U. S. 253), the question presented was whether section 811(e) of the Internal Revenue Code, which includes in the gross estate for Federal estate tax purposes the value of community property held by the decedent and surviving spouse, violated the Constitution of the United States and thus did not provide any valid basis for the imposition by Louisiana of an estate transfer tax equal to the credit for state death taxes allowed against the basic Federal estate tax. While recognizing that an important question of constitutional law was presented, the Supreme Court dismissed the appeal on the ground that the appellant had failed to raise any question as to the validity of the Louisiana statute under the Fourteenth Amendment to the Constitution of the United States.

STATE LEGISLATION

There were few important changes in state death tax laws. Kentucky exempted from its inheritance tax proceeds from a Government Life Insurance policy or a National Service Life Insurance policy, and any payment by the United States arising out of service in the armed forces of the United States in time of war (S.B.

103). New Jersey authorized an agreement with other states and with executors, in cases where a domiciliary dispute has arisen, providing for the payment of a lump sum in settlement of the New Jersey inheritance tax (Chapter 220, Laws 1944).

FEDERAL TAXATION

There were no significant decisions by the Supreme Court of the United States in the field of Federal estate taxation. However, the holding of the Supreme Court in Helvering *v.* Hallock (309 U. S. 106) continued to give rise to much litigation in the lower courts. For example, in Fidelity-Philadelphia Trust Co. *v.* Rothensies (142 F. (2d) 838, certiorari granted Oct. 9, 1944), it was held that a transfer made by a decedent in 1928 with provision that, in the case of the death of named remaindermen, the trust principal was to be distributed in accordance with the provisions of decedent's will, was a transfer intended to take effect in possession or enjoyment at or after decedent's death for Federal estate tax purposes. In Goldstone *et al.* *v.* United States (144 F. (2d) 373, petition for certiorari filed Nov. 24, 1944), the United States Circuit Court of Appeals for the Second Circuit held that the proceeds of single premium life insurance and annuity combination policies were includible in the decedent's gross estate, as a transfer intended to take effect in possession or enjoyment at or after decedent's death, because of a possibility of reverter to decedent in case of the prior death of such beneficiary, despite provisions which gave the beneficiary power to borrow on the policies, and to assign or surrender the policies.

AUTOMOBILE TAXES

By Alma Snyder Russell

New York State Department of Taxation and Finance

EFFECT OF THE WAR

Before Pearl Harbor, there were almost 28,000,000 passenger cars in use on the nation's highways. Stockpiles of new cars are now virtually exhausted and many used cars are being scrapped. It is estimated that by the end of 1945, unless automobile manufacturing is resumed in the meantime, there will be less than 22,000,000 passenger cars on the road. Trucks are being manufactured, but mainly for the use of the armed forces, only 101,000 having been allocated for civilian use in 1944.

The registration figures for 1942 and 1943 show a considerable decline.

	1942	1943
Passenger cars . . .	27,422,811	25,451,007
Trucks	4,624,310	4,442,301
Busses	97,088	66,059

Registration receipts have decreased accordingly. State registration receipts for 1943 totalled $409,729,000 as compared with $490,666,000 collected in 1941, our last pre-War year.

Gasoline taxes are slowly recovering from the low of 1943. Although well below the 1941 level, receipts in 25 states of 30 reporting in a recent poll were higher for the first three months of 1944 than for the same period in 1943. Still, tremendous amounts of revenue have already been lost. Total state receipts for gasoline taxes for 1943 were $653,580,000, compared with $950,956,000 for 1941. Federal taxes on gasoline, oil, and accessories declined from $621,124,808 in 1941 to $509,073,863 in 1943.

CHANGES AFFECTING ARMED FORCES

A fairly large number of legislative enactments were passed by the states in 1944. Few new privileges were accorded members of the armed forces, since most of the states had already made such provisions. Some states made extensions of laws already in force, such as the New Jersey law extending drivers' privileges for members of the armed forces until 180 days after termination of the war or within three months after honorable discharge, providing such persons are in uniform. New Jersey also authorizes the Commissioner of Motor Vehicles to refund registration fees on motor vehicles belonging to persons entering naval or military service, based on the number of months left in the registration year. To obtain such refund, written application must be made under oath, and registration and license plates must be surrendered.

Rhode Island provided that persons in the armed forces or Merchant Marine of the United States may continue to operate a motor vehicle during terms of service and 30 days thereafter without obtaining a license.

Virginia provided pro-rata credit to an owner and operator of a motor vehicle truck based on the unused portion of the license year when the owner and operator is inducted into the armed forces, the credit to be obtained on discharge from service. Credit is obtained by filing application accompanied by the certificate of registration and, in the case of persons entering service after July 1, 1944, the license plates of the year for which credit is sought, together with an affidavit swearing to the number of months the license was unused and the fact that the vehicle can not be operated due to the owners' service in the armed forces. In addition, Virginia provided that chauffeurs' and operators' licenses shall be held not to have expired during the period of service in the armed forces and six months thereafter.

The Kentucky Legislature gave power to the Commandant at Fort Knox to issue motor vehicle licenses, equivalent in validity to licenses issued by counties.

MOTOR FUEL TAXES

Two of the states made changes in provisions affecting sales of gasoline to the United States. Louisiana, in Act 130, amends the law and exempts from both the four-cent and two-cent taxes, gasoline sold to the Federal Government in amounts of 6,000 or more gallons and gasoline sold to the armed forces for use in ships and airplanes.

Mississippi now eliminates from exemption to gasoline and oil excise tax, sales to the Federal Government and its departments, agencies and instrumentalities, other than for use of the armed forces.

Several other changes have been made in regulations governing motor fuel taxes. The state making the greatest number of changes was Louisiana. In addition to changing exemptions on government purchases of gasoline, the Legislature made two other major provisions. Tractor fuel is now exempt from the four-cent and two-cent motor fuel taxes and from the kerosene tax. This amendment had to be approved by the people in the November 1944 elections. When a bonded dealer sells to another bonded dealer who is operating aircraft in interstate commerce, the second bonded dealer is responsible for the payment of four-cent and two-cent motor fuel taxes.

Mississippi authorizes the Motor Vehicle Commissioner, with the approval of the Governor and the Attorney General, to modify existing laws governing gasoline inspection where compliance with such regulations is rendered impossible by reason of wartime regulations or directions of the United States Government. Methods are provided by which such modifications may be promulgated.

New York State extended its one-cent emergency and one-cent additional emergency taxes on motor vehicle fuels and provided, also, that claims for refund shall contain a certificate as to the truth of the statement.

Virginia provided that applications for refund of gasoline tax will be considered timely if they are mailed and postmarked before midnight of the last day on which they could have been filed in person. In addition, refund applications will be considered if duly signed; affadavits are no longer necessary.

LICENSES AND REGISTRATION

Changes in the motor vehicle license and registration provisions of the states were numerous and covered everything from licensing of bicycles to provisions applying to common carriers.

New York State provided for the suspension of motor vehicle registration certificates and plates when the Motor Vehicle Commissioner suspends or revokes an operator's license because of a conviction.

Rhode Island and South Carolina provides for the licensing of motor vehicle dealers. The annual fee in South Carolina is $25; in Rhode Island, $50 and an equal amount for each branch store or office. South Carolina provides for the distribution of amounts collected for registration of motor vehicles. After deductions for administrative costs, the remaining amount shall be divided pro-rata among the incorporated cities and towns of the state according to population, except that each county seat is to receive a minimum of $1,000 and no town or city may receive more than $5,000. Distribution will be made semi-annually within 30 days after June 30 and Dec. 31. Rhode Island exempts Red Cross vehicles from payment of registration fees and provided a schedule for renewal of motor vehicle licenses, in accordance with a new provision under which all motor vehicle licenses shall henceforth expire Sept. 30.

Mississippi authorizes the Motor Vehicle Commissioner, with the approval of the Attorney General, to refund to any individual, firm, or corporation any motor vehicle license tax fees or privilege tax erroneously or illegally paid as compensation for use of highways of this state. Claims must be made within 12 months from the date of erroneous payment. The law, which went into effect March 8, 1944, was retroactive for 12 months.

Several of the states initiated special licenses. In Missouri, common carriers were given option to register and have licensed two emergency vehicles as alternates for the principal licensed vehicle. The annual fee for each emergency vehicle is to be five dollars, and these vehicles must be of the same weight as the principal vehicle.

Louisiana provides that buses and passenger coaches, trailers and semitrailers, operating within seven miles of municipalities are liable for a registration fee of $3.25 per passenger seat, and that the exemption formerly applicable to such vehicles applies only to those operating within one-half mile of corporate limits of municipalities.

Kentucky authorized a special license fee of $9.50 for motor vehicles with permanent wrecking cranes attached.

In addition to the special military privileges, several other changes were made in regulations governing operators' licenses. Kentucky provided for annual renewal of motor vehicles operators' licenses by application in person or by mail to the circuit court clerk instead of a complete new application every five years.

Virginia legislation amended the law so that, until July 1, 1946, persons over the age of 14 may obtain temporary instruction permits and operators' licenses, but they may not be permitted to operate for-rent or for-hire vehicles. The law forbids the issuance of such permits or licenses in cities where operation of vehicles by persons of fifteen years of age is prohibited. It provides for examination of applicants for operators' and chauffeurs' licenses by the Department of State Police instead of the Division of Motor Vehicles.

Virginia also authorized counties and cities to enact ordinances concerning licensing of bicycles at a fee of not more than 50 cents and gave the power to counties of certain size and location to impose a special license tax upon operation of taxicabs.

New Jersey eliminated the necessity for having an affidavit taken by a notary public on each application for motor vehicle registration and provided for greater penalties for misstatements in application.

California's only change is to authorize the Governor, for the duration of the war and for six months thereafter, to extend for a period of not to exceed three months the expiration date of motor vehicle registration, the opening and closing periods for renewal applications, and penalty date.

PERIODICAL PUBLICATIONS

American Economic Review
Northwestern Univ., Evanston, Ill.
Annals, The
American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia.
Business Week
330 West 42nd Street, New York City.
Commercial and Financial Chronicle
25 Spruce Street, New York City.
Journal of Political Economy
5750 Ellis Ave., Chicago.
Nation's Business
Chamber of Commerce of the United States, 1615 H St., N.W., Washington, D. C.
Tax Administrators News
1313 E. 60th St., Chicago, Ill.
Tax Digest
15 East 26th Street, New York City.
Tax Magazine
350 Fifth Ave., New York City.
Tax Policy
257 Fourth Ave., New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia.
American Taxpayers' League, Munsey Bldg., Washington, D. C.
Federation of Tax Administrators, 1313 E. 60th St., Chicago, Ill.
Institute of Local and State Government, University of Pennsylvania, Philadelphia.
National Assn. of Assessing Officers, 1313 E. 60th St., Chicago, Ill.
National Highways Assn., Bass River, Cape Cod, Mass.
New England State Tax Officials Association, Room 236, State House, Boston, Mass.
Research Institute of America, Inc., The, 292 Madison Ave., New York City.
Tax Institute, 257 Fourth Ave., New York City.

DIVISION VIII

PUBLIC RESOURCES AND UTILITIES

FEDERAL SURVEYS AND MAPS

By K. T. Adams

Chief, Topography Section, U. S. Coast and Geodetic Survey

GENERAL

Maps, charts, and air photographs are indispensable in war. Small-scale maps are used in strategic planning; large-scale maps and air photographs are used in tactical maneuvers, and in bombing; air photographs are used in intelligence studies. No important military or naval action can be planned without maps, nor are they undertaken without an adequate supply of maps or charts, frequently supplemented by air photographs taken just before the action. It is not surprising, therefore, that so much of the productive effort of the map-producing agencies is devoted to mapping foreign areas in potential war theatres.

The mapping activities of the Federal agencies can be only partly reported since practically all mapping of foreign areas is secret or confidential, and even much domestic mapping is confidential or restricted for the time being. The restrictions against the issue of most domestic maps have been removed, but the issue of foreign maps and all air photographs is still restricted.

AMERICAN CONGRESS ON SURVEYING AND MAPPING

The American Congress on Surveying and Mapping was organized in 1941, and had its last meeting in June, 1944. The Congress is a non-profit organization, dedicated to the advancement of surveying and mapping in the Western Hemisphere, whose membership is composed of individuals engaged in, or interested in, one or more of the various branches of surveying or mapping. Its objectives are to advance the sciences of surveying and mapping, to promote the use of maps, and to encourage all basic mapping programs.

INTER-AMERICAN COMMISSION ON CARTOGRAPHY

The Commission on Cartography is an inter-American organization whose membership comprises the nations of the Western Hemisphere. The Commission was formed as the result of a Resolution passed at the 1941 meeting of the Pan American Institute of Geography and History, at Lima, Peru. The aim of the Commission is to promote and expedite map-making among the nations of the Western Hemisphere, to recommend uniform standards, and to exchange information on technical methods and results. The Commission has held two Consultations; first, at Washington, D. C. in October, 1943, and recently in Rio de Janeiro, Brazil, in August, 1944.

SURVEYING AND MAPPING AGENCIES

Certain Federal Agencies are primarily mapping and surveying agencies; their prime function is to survey and map so that the results may be available for other agencies and for the general benefit of the country. Other agencies survey and make the maps which are needed by them to carry out their functions properly.

Still other agencies compile special maps without field surveys to meet their special needs.

The Coast and Geodetic Survey establishes the basic horizontal and vertical control throughout the country and its possessions, surveys the coasts and adjoining waters and publishes nautical charts of them, and compiles and publishes aeronautical charts. The Geological Survey makes field surveys and publishes geologic maps, primarily for its own use, and topographic quadrangle maps which are generally used by all agencies and the public and form part of the standard map of the country. The Hydrographic Office makes coastal and hydrographic surveys in some foreign areas and compiles and publishes nautical charts of all foreign waters. The General Land Office surveys and subdivides the public lands. The Soil Survey makes field surveys and publishes soil maps and bulletins connected with land use. The Forest Service makes field surveys and publishes maps of national forests, primarily for its own administrative use. The Corps of Engineers makes field surveys and publishes tactical and other maps primarily for Army use.

The cooperative domestic mapping program of the Corps of Engineers, mentioned in THE AMERICAN YEAR BOOK, 1942 (p. 285) has been concluded and the results are reported under the various agency reports.

Maps are compiled for special purposes at infrequent intervals by a number of Federal agencies, among which are the Division of Geography and Cartography of the Department of State, Division of Maps of the Library of Congress, International Boundary Commissions, and Office of Strategic Services (see additional details in prior issues of THE AMERICAN YEAR BOOK).

All Federal surveying and mapping activities are coordinated in the Bureau of the Budget in the interests of efficiency and to eliminate unnecessary duplication of effort. The Bureau acts as a clearing house for the dissemination of knowledge of new methods and instruments, and encourages the adoption of the most efficient and economic methods.

A Map Information Office is maintained in the Geological Survey, which serves as a central clearing house to furnish, to the various government agencies and to the public, information relative to surveys, and existing maps and air photographs.

The year's accomplishments by the principal mapping agencies are reported, so far as they can be disclosed, under the various department and agency headings.

WAR DEPARTMENT

The Corps of Engineers is responsible for all maps and surveys needed by the War Department, excluding the Army Air Forces. Such maps are produced in the United States by the Army Map Service, and overseas by topographical troops of the Corps of Engineers. During 1944 the Army Map Service produced more than 161,000,000 copies of over 14,000 different large-scale maps, drafted more than 4,000 new maps, and revised over 3,000 existing maps. More than 65,000,000 copies of over 25,000 different maps are stocked for distribution.

Air Photographs.—Maps for military operations are compiled from air photographs and other maps. The Army Air Forces contains many photographic and reconnaissance groups and squadrons. An astonishing number of air photographs are taken in connection with the war. In one film library alone, there are over 30,000 rolls of recent photography, with approximately 90 rolls being received daily. The compilation files of the Army Map Service contain more than 190,000 recent maps usable as source material, and geodetic data in many areas. More than 450 maps are being added daily to these files.

The cooperative domestic mapping program, mentioned in THE AMERICAN YEAR BOOK, 1942 (p. 285) has been concluded. This resulted in 1,379 large-scale quadrangle maps of over 112,000 square miles of area in the United States, previously unmapped or inadequately mapped. The agencies engaged in this program and the number of maps produced are: Army Map Service (28), Los Angeles Engineer Office (48), Little Rock Engineer Office (50), Richmond Engineer Office (25), 29th Engineer Topographic Battalion (124), Forest Service (100), Soil Conservation Service (109), Coast and Geodetic Survey (323), Tennessee Valley Authority (386), Geological Survey (60), and by commercial contract (126). In addition, the Geological Survey mapped many critical defense areas not a part of this program, and the Army Map Service revised hundreds of obsolete topographic maps for military use.

The Army Map Service programmed all foreign maps needed for military operations, producing most of them itself, with other Federal agencies and commercial mapping firms cooperating. Some completed all phases of map production and others completed only certain parts of the work. The agencies involved and the number of maps are: Army Map Service (6,436), Lake Survey (623), Soil Conservation Service (159), Tennessee Valley Authority (284), Geological Survey (400), Coast and Geodetic Survey (469), and by commercial contract (1,016).

In connection with this vast program, methods of map revision and compilation and instrumental techniques have necessarily been seriously studied and often improved by the adoption of production-line methods with a consequent acceleration of progress. Many thousands of soldiers and civilians have become trained mapping technicians. Valuable facilities for collecting, collating, and using map source materials, and the free interchange of map data between agencies, United States and Allied, have resulted from the program. Another result is the development by the National Bureau of Standards of a sulphite paper with great strength when wet and distorting no more than, and having the durability of, the most expensive chart paper.

The Aeronautical Chart Service of the Army Air Forces is responsible for the production, acquisition, and supply of all maps, charts, and related publications used by the Army Air Forces. Through its own facilities, and through the facilities of other Federal agencies and commercial companies, approximately 6,000 aeronautical charts were produced for the Army Air Forces. Among these are Target Charts at scale 1:180,000, Approach Charts at 1:250,000, Pilotage Charts at 1:500,000 and 1:1,000,000, Long Range Air Navigation Charts at 1:3,000,000, Planning Charts at 1:5,000,000, and other special charts at various scales. Aeronautical charts at scales 1:5,000,000, 1:3,000,000, and 1:1,000,000 now completely cover the world. A series of Flight Charts covering the principal air routes of the world were produced for the Air Transport Command, and the Ferry Command. More than 30,000,000 chart copies were printed and supplied to AAF activities throughout the world.

Trimetrogon photographs of 4,380,000 square miles of area were taken during the year, bringing the total coverage to approximately 11,000,000 square miles. These are compiled at comparatively small scales to furnish topographic information for aeronautical charts. Through its own facilities and those of the Geological Survey more than 5,000,000 square miles of planimetry were compiled during the year, in addition to about 2,500,000 square miles previously compiled. Approximate contours, suitable for aeronautical charts, were compiled for about 2,500,000 square miles of these areas. The areas covered include the major air traffic routes through Alaska, Canada, Central and South America, Africa, and various war theaters. One thousand new astronomic positions were determined by the Army Air Forces for use as photogrammetic control, and in addition 1,144 previously established astronomic positions were recovered and identified.

In addition to the activities described above, the Mississippi River Commission and the Lake Survey continued their functions described in THE AMERICAN YEAR BOOK, 1941 (p. 249).

HYDROGRAPHIC OFFICE OF THE NAVY DEPARTMENT

The Hydrographic Office provides world-wide coverage of foreign nautical and aeronautical charts and allied publications for the use of mariners and aviators. The information for these charts and publications originates from the leading maritime nations of the world, from Navy hydrographic and aerial photographic surveys, from reports submitted by Navy and merchant ships, from consular agents of the State Department located in the scattered ports of the world, and from numerous other sources.

During 1944, the Hydrographic Office continued the vital work of furnishing charts to naval and merchant vessels and air services for their worldwide operations. In peacetime the Navy makes hydrographic and aerial surveys of foreign countries, principally in Central and South America, but since the outbreak of war this work has necessarily been greatly increased, particularly in combat areas where surveys are essential to the successful prosecution of the war.

Special charts and data are vitally essential for air operations in the various theatres of the war and the facilities for furnishing these data have been expanded to include most of the globe.

The Hydrographic Office regularly issues more than 4,000 nautical and 250 aeronautical charts of the world, besides hundreds of other special charts and publications. These issues are constantly being revised and reprinted as later and better information becomes available.

The 20-fold increase in the work of the Hydrographic Office can not be made public for the duration for reasons of security.

DEPARTMENT OF THE INTERIOR

The Geological Survey makes field surveys and publishes geologic and topographic maps. The latter are part of the standard map of the United States, and are for sale as quadrangles; they are the bases for the geologic maps which are included in geologic reports. During the year, 261 new topographic maps, 107 of which were for the War Department, three planimetrics, 407 reprints, and 21 state maps were published.

New topographic surveys covering 10,948 square miles were completed in 22 states, 1,401 square miles in Puerto Rico, and 7,609 square miles of resurveys in 23 states. The largest areas of new topographic mapping were completed in Florida, Illinois, Louisiana, Missouri, and North Dakota. Planimetric maps of 1,744 square miles in Michigan and Wisconsin were compiled from air photographs for publication prior to the addition of contours.

Control surveys for this mapping consisted of 161 occupied triangulation stations, 2,007 linear miles of transit traverse, and 3,148 linear miles of leveling, all of third-order accuracy or higher. The fourth and last part, *Bulletin 930-D,* embracing spirit leveling in Illinois, was published during the year. Results of horizontal and vertical control surveys for various quadrangle maps were issued in lithographic lists.

Air photographs covering 18,600 square miles were procured, or contracted for, during the year for use in mapping.

New foreign maps of approximately 13,200 square miles of area were compiled from air photographs for the War Department, and the planimetry and other parts of existing maps of about 38,000 square miles were recompiled. Drafting for reproduction at scales of 1:25,000 and 1:50,000 was completed for maps covering approximately 60,000 square miles.

Progress was continued on the Millionth Scale Map of the World. Compilation and drafting of sheets I-18, Hatteras; K-10, Mt. Shasta; K-17, Lake Erie; and L-10, Cascade Ranges, were in progress.

The Transportation Map of the United States, scale 1:250,000, prepared for the Public Roads Administration progressed. Thirty-one sheets were in course of publication.

Miscellaneous charts have been prepared for the Army Air Forces and other special work has been done for other Government agencies.

The Alaska Branch compiled small-scale topography with 250 to 1,000 foot contour intervals of about 300,000 square miles from trimetrogon photography, using the Wilson photoalidade; and the planimetry of approximately 3,000,000 square miles; all for use on aeronautical charts of Alaska and foreign areas at a publication scale of 1:1,000,000. Special charts of strategic areas were compiled at larger scales. The drafting of 65 charts of various types was completed for photolithographic reproduction.

The Board on Geographical Names transcribed more than 500,000 foreign geographical names according to adopted principles, and rendered approximately 15,000 decisions on geographic names (mostly foreign). These latter were issued in 13 booklets, generally at monthly intervals. Gazetteers were published for three areas in the Far East. Twenty-five sets of Directions for the Treatment of Geographical Names (some preliminary and some final) were issued for 25 areas in Europe, Asia, and the Pacific Ocean. Guides to Geographical Names in two Far Eastern areas were published.

The General Land Office, the Office of Indian Affairs, the National Park Service, and the Fish and Wildlife Service continued their activities as previously described in THE AMERICAN YEAR BOOK, 1941 (p. 250).

DEPARTMENT OF AGRICULTURE

Air Photography.—The Department has acquired, from 1926 to date, air photographs covering 2,901,914 square miles of area, of which about one-fourth is duplicate coverage, necessitated by obsolescence, cultural changes, flood damages, shifting of crop boundary outlines, etc. Owing to the requirements of the War and Navy Departments for trained air photographers and pilots, the Department's air photographic program has been greatly curtailed and only a comparatively small area was photographed during the year. Practically all the photographs are at a scale of approximately 1:20,000 and most of them are suitable for use in mapping.

The Agricultural Adjustment Agency, while it makes neither topographic nor planimetric maps, does compile photomaps and mosaics from air photographs. During 1944 this work was almost exclusively for military use. Photomaps of over 100,000 square miles, of both foreign and domestic areas, were compiled during the year at various scales, principally 1:20,000, 1:40,000, and 1:60,000, and reproductions of many of them are available to Federal agencies. Reproductions of photomaps and ratioed and rectified air photographs are used extensively in connection with Agricultural Adjustment Agency food-production programs.

The Forest Service completed the topographic surveying of the 2,650 square miles in Maryland and Pennsylvania for the War Department. Practically all mapping personnel of the Forest Service is now engaged on work for the military agencies. No new mapping of forest areas was undertaken, and only a few maps were published.

The Division of Soil Survey, Bureau of Plant Industry, Soils, and Agricultural Engineering issued during the year 11 detailed soil maps together with accompanying explanatory bulletins, bringing the total of such published surveys to 1,535. The new maps and reports were for the following areas: Santa Cruz, Tracy, Calif.; Blackfoot-Aberdeen, Idaho; Vanderburg County, Ind.; Upper Musselshell, Mont.; Coos County, N. H.; Henderson County, N. C.; Billings County, N. D.; Lucas County, Ohio; Choctaw County, Okla.; and Dimmit County, Tex. Thirty-eight additional maps are being printed. Although field surveys by the Division have been discontinued for the duration of the war, cooperating state agencies made field surveys during the year on approximately 2,000,000 acres, the results of which will be published on maps in the regular soil-map series. Special soil maps, from field surveys or compiled from existing data, were prepared in connection with the war-expanded production of crops.

The Soil Conservation Service completed the topographic mapping for the Corps of Engineers mentioned in previous issues of THE AMERICAN YEAR BOOK. Field control was established and computed and ratio assemblies made in about 10,000 square miles of area for controlling soil-conservation surveys. Eighty-seven quadrangles, showing land capabilities, were published. Numerous maps and charts were also compiled for the military agencies.

DEPARTMENT OF COMMERCE

The Coast and Geodetic Survey in 1944 published 31 new nautical charts of waters of the United States and possessions, of which 21 were in Alaska. In addition, 81 new editions, 930 new prints, and 490 reprints of existing charts were published. The total number of catalogued nautical charts, which are under constant revision and of which revised editions are frequently published, is 868, of which 163 are of Philippine Islands waters.

Hydrographic surveys were made covering 6,845 square miles, in which were 27,764 miles of soundings, mostly in the waters of Maine, Chesapeake Bay, and Alaska. Topographic surveys, using air photographs exclusively, were made of 9,471 square miles, in which there were 10,696 miles of shoreline, mostly in Maine, Maryland, Virginia, and Florida.

Control surveys were made as follows: First-order triangulation, 1,690 linear miles covering 23,990 square miles of area; second-order triangulation, 2,178 linear miles covering 25,402 square miles of area; second-order traverse, 90 miles; first-order levels 3,315 miles; second-order levels, 2,464 miles; 20 first-order bases measured totaling 82.4 miles; and 15 astronomic stations occupied. Reconnaissance for future triangulation extended along 3,231 miles of arc covering 40,306 square miles of area. During the year, 1,795 triangulation stations were located in the United States and Alaska. There are now about 97,000 stations in the United States, whose positions have been adjusted on the North American 1927 datum. The elevations of 7,518 bench marks were determined during the year, making a total for the country of approximately 250,000. There are 126,680 miles of first-order levels and 200,405 miles of second-order.

Three new aeronautical charts were published of the United States and possessions, making a total of 134 (described in THE AMERICAN YEAR BOOK, 1940, p. 289, and 1941, p. 251). The production of aeronautical charts for military aviation continued at a high rate, 1,763 charts being compiled or revised. About 1,000 target charts and numerous other special charts have been produced for military aviation. Twelve isogonic charts, scale 1:5,000,000, were issued as part of a worldwide series. Surveys or resurveys of 288 airports were made from which 257 new or recompiled approach and landing aeronautical charts were made.

Air photographs of 2,500 square miles of coastal areas in Maine, New Jersey, and Delaware were taken in collaboration with the U. S. Coast Guard. From these 91 planimetric maps were compiled. The total number of planimetric maps published is 754, with 218 awaiting publication. These maps were described in THE AMERICAN YEAR BOOK, 1940 (p. 289).

Topographic quadrangle maps of certain strategic areas, mostly in Florida, Maine, Maryland, New Hampshire, Virginia, and North and South Carolina, have been made for the War Department. These are published as 7½ minute quadrangles, mostly at a scale of 1:31,680, although some are at a scale of 1:25,000. Field surveys and compilation have been completed for 323 quadrangles, totaling an area of 14,410 square miles; 188 have been published.

Gazetteers of geographic names in coastal areas were compiled and issued for the following areas: United States West Coast, Alaska, Philippine Islands, and Hawaiian Islands. The last was issued by the Hydrographic Office.

The Weather Bureau, The Bureau of the Census, and the Bureau of Foreign and Domestic Commerce compile and publish special-type maps (see THE AMERICAN YEAR BOOK, 1943, p. 296).

FEDERAL WORKS AGENCY

The Public Roads Administration, in cooperation with the State Highway Departments, is conducting highway planning surveys throughout the country which will eventually provide a complete series of state and county maps showing the location of approximately 3,000,000 miles of rural roads and the character of culture served by them. The resulting state, county, and transportation maps have been described in previous editions of THE AMERICAN YEAR BOOK (1939, p. 276; 1940, p. 290; and 1941, p. 252). Only additions to these series are reported here (for those previously available, see THE AMERICAN YEAR BOOK, 1943, p. 297, and prior issues).

County maps for four additional counties were issued in 1944, and maps for 65 of the remaining 74 counties are in progress.

The Transportation map of New Mexico in 14 sheets is now available. Seventeen sheets in two states have been revised.

TENNESSEE VALLEY AUTHORITY

During the year the Tennessee Valley Authority mapped an additional 1,000 square miles in the Valley, with the result that approximately 13,000 square miles of the Tennessee Valley are now covered with standard final-edition 7½-minute quadrangles at a scale of 1:24,000 (see THE AMERICAN YEAR BOOK, 1943, p. 297 for details).

In a program undertaken for the War Department, the Authority has mapped, during the last three years, areas of strategic importance in New York, Texas, and South Carolina, totaling approximately 24,000 square miles. The maps of the New York and South Carolina areas are published at a scale of 1:31,680 (2 inches equals 1 mile); those in Texas at a scale of 1:24,000 (see also THE AMERICAN YEAR BOOK, 1943, p. 297).

During the year the Authority's mapping efforts were directed principally toward the preparation of strategic and tactical maps of foreign areas for the War Department. These maps are on various scales and include both new compilations by stereophotogrammetric methods controlled by existing maps and the revision and recompilation of old maps.

The property surveys, cadastral maps, and navigation charts made by the Authority were described in THE AMERICAN YEAR BOOK, 1943 (p. 297).

STATE GEOLOGICAL SURVEYS

BY T. R. MEYERS

ASSOCIATION OF AMERICAN STATE GEOLOGISTS

STRATEGIC MINERALS

The year 1944 appears to have marked the close of the period of rapid increase in demand for domestic minerals, both those formerly produced and those produced for the first time to meet specific war needs. Rapid solution of our domestic mineral problems was made possible, in part, by the activities of the State Geological Surveys. Effective work has been accomplished by the surveys despite serious manpower shortages. This has been accomplished by drawing from their backlog of geologic information and experience and their cooperative utilization of trained personnel in universities and other agencies or institutions in order to solve wartime problems. The number of problems is indicated by the War Production Board's list of 41 new minerals vital for use in the production of new instruments of warfare. Most of these minerals are now being produced domestically.

MINERAL INDUSTRY CONFERENCES

In increasing numbers, State Geological Surveys are sponsoring Mineral Industry Conferences where items of common interest to the mineral industry and the state surveys are discussed. Problems demanding fundamental research in geology, also mineral concentration in some instances, are identified and plans are made for their study by surveys. Other beneficial results of the conferences are the establishment of mutual understanding and respect between research worker and producer, and more accurate anticipation of future mineral industry activities of the states. In addition, the publicity associated with the conferences develops public and legislative appreciation of the work being done and leads to greater backing of the state survey programs.

WATER RESOURCES

Water resource studies are being conducted by a majority of the State Geological Surveys, acting individually or in cooperation with the United States Geological Survey. The cost of the cooperative work is shared equally by both state and Federal agencies.

Impetus has been supplied to water resource studies during the current war as public and industrial leaders were brought to realize that water is not an unlimited resource. Many rapidly growing communities and war industries have faced serious water shortages because of lack of information or failure to use that which was available. Most of these local problems have been solved by geologic studies revealing new sources of supply or by the application of conservational measures. In some instances, it has been necessary to bring in water at considerable expense.

The water resource studies now in operation, or contemplated, are largely of the long-range type. As these studies progress, data on quality, quantity, dependability of supply, and necessary conservational measures are made available to community and industrial planners. Thus, the possibility of serious errors in the utilization of water resources should gradually be eliminated.

PUBLIC EDUCATION IN GEOLOGY

In addition to the publications of geologic, water resource, and soil reports and maps, certain of the State Geological Surveys have placed in operation educational programs. These are carefully planned to satisfy various interests and age groups. Direct contact is made by illustrated lectures to groups such as science teachers, prospectors, civic organizations, and mineral collectors. In at least one state, field trips are conducted for high school science teachers and other interested persons. Larger numbers are reached through educational pamphlets covering features of both local and general interest, weekly series of newspaper articles, news releases of items of special interest, and, in a few states, by radio broadcasts. Many surveys provide mineral, rock, and fossil sets for school use. Some prepare exhibits for conventions, fairs, and other organizational meetings. The goal of these programs is to develop an understanding and interest in our physical environment and provide bases for the effective utilization of natural resources.

POST-WAR PLANNING

In addition to continuing basic researches, the State Geological Surveys are making extensive plans for post-war work. The programs are necessarily varied because of geologic and geographic differences between the states. Some of the more common projects are: the continuing or initiating mineral, water, and soil resource inventories; studying in detail large but low-grade mineral deposits; conducting researches to improve production and processing practices; strengthening the cooperative machinery between the state surveys, Federal survey, and industry; and, expanding conservational, educational, and service programs. A few of the factors demanding these programs are: change in mineral demands through changes in industrial requirements; rapid depletion of certain important domestic resources, such as iron ore and petroleum; need for further cooperative efforts to eliminate waste; and, lack of public understanding of local, national, and international mineral problems.

ALABAMA

Basic and Economic Geology.—*Projects:* Guide to fossil localities and type localities in the Coastal Plain; Annual Report of the Geological Survey of Alabama for the Fiscal Year 1942-1943; Report on oil and gas drilling activities; The coal fields of Alabama; Red iron ore of northeast Alabama; The brown iron ores of Alabama; Limestones and dolomites of Alabama; Alabama shales. *Publication:* Geology of the Alabama tin belt (*Bull. 54*).

Water Resources. — *Projects:* Monthly reports on surface-water conditions and outlook; Ground water resources of Mobile and Baldwin counties; Geology and ground water resources of Choctaw County. *Publication:* Ground water resources of the Cretaceous area of Alabama (*Special Rept. 18*).

ARIZONA

Basic and Economic Geology.—*Projects:* Geologic examination of mineral deposits as required for war effort and other requests; Relation of structure to ore deposits in western and central Arizona, a long term project; A survey and geologic investigation of Arizona's non-metallic deposits; Cooperative work with United States Geological Survey and United States Bureau of Mines in their strategic minerals programs. *Publications:* Geology and ore deposits of the Superior mining area, Arizona (*Bull. 151*); Arizona's non-metallics, a summary of part production and present operations (*Bull. 152*); Geologic Map of Arizona (*Reprint,* 1924 ed.).

ARKANSAS

Basic and Economic Geology.—*Projects:* Mineral resources of White River drainage basin; Mineral resources of the Fort Smith Area; List of counties served by the Frisco Lines and principal economic mineral products found therein; Report of investigation of Garland, Pike, Howard, Montgomery, Polk, and Scott counties; Rock formations excavated during the construction of northeast-southwest runway of Hot Springs Municipal Airport; Underground workings of the National Quicksilver Corp., Pike County; Casper Property, Lawrence County; Preliminary investigation of an absorbent clay deposit near Monticello, Drew County; Investigation of the Brazil Branch breccia in Perry County; A high silica calcareous agglomerate from "Tufa Hill"; Limestone deposits adjacent to water transportation on the Arkansas River; *Publication:* Economic minerals of Arkansas.

Topographic and Planimetric Mapping.—*Project:* Cooperating with United States Geological Survey in topographic mapping program.

Water Resources.—*Projects:* Cooperating with United States Geological Survey in stream gaging program; Ground water resources in vicinity of Cabot.

Others.—*Publication:* Annual Administrative Report of the State Geologist for the year 1944.

CALIFORNIA

Basic and Economic Geology.—*Projects:* Work on the California Journal of Mines and Geology for April, July, and October 1944; Statistics (*Bull. 128*); Economic minerals and production (*Bull. 130*); Minerals of California; Iron (*Bull. 129*); Economic mineral survey, with special reference to post-war employment (*Bull. 130*). *Publications: California Journal of Mines and Geology,* (1) July 1943, (2) October 1943, (3) January 1944; Statistics (*Bull. 126*); Mining Law pamphlet (*Bull. 127*).

COLORADO

Basic and Economic Geology.—*Projects:* Fluorite, beryllium, tungsten, bismuth, molybdenum, lead and zinc studies in the districts of Kokomo, Silver Plume, Jamestown, Salida, Ophir Valley, Leadville, Alma and Green Mountain. (All work carried on under a cooperative arrangement with the United States Geological Survey).

CONNECTICUT

Basic and Economic Geology.—*Projects:* Mapping and exploring for strategic minerals; Cooperation with the United States Geological Survey; Areal geology studies.

FLORIDA

Basic and Economic Geology.—*Projects:* Micropaleontology; Geology of Florida with new map; Investigations and studies of stratigraphy and structure; Peat deposits of Florida with particular attention to their possible fuel value. *Publications:* Stratigraphic and paleontologic studies of wells—No. 3 (*Bull. 26*); Late Cenozoic geology of southern Florida with a discussion of the ground water (*Bull. 27*).

Water Resources.—*Projects:* Continuing cooperation with United States Geological Survey; Ground water studies; Surface water, especially springs and lakes. *Publications:* Interim report on the investigations of water resources in southeastern Florida with special reference to the Miami area in Dade County (*Rept. Invest. No. 4*); Report on ground water conditions in Orlando and vicinity (*Rept. Invest. No. 5*).

Others.—*Publication:* The natural features of southern Florida, especially the vegetation, and the Everglades (*Bull. 25*).

GEORGIA

Basic and Economic Geology.—*Projects:* Geology, mineral resources and ground water resources of Twiggs, Wilkinson, Washington and Glascock counties; Continuing study of the subsurface stratigraphy of the Coastal Plain; Structural, stratigraphic and petrographic study of the Murphy marble belt (completed); Coal, exploratory project including mapping, drilling, sampling, analyses and general economic report; Economic investigation of specular hematite, limonite, magnetite and manganiferous ores; Massive kyanite (India type) deposits (completed); Sillimanite deposits (completed); Continued supplemental field work on mica pegmatites. *Publication:* Sillimanite and massive kyanite deposits of Georgia (*Bull. 51*).

Water Resources.—(In cooperation with the United States Geological Survey, United States Engineers, Emory Univ., and Federal Power Commission.) *Projects:* Continuing statewide ground water project; Continuing expanded, statewide surface water project; Continuing limited, statewide quality of water study. *Publication:* Artesian water in southeastern Georgia, with special reference to the coastal area (*Bull. 49*).

IDAHO

Basic and Economic Geology.—*Projects:* Lead, zinc, and copper deposits of the Birch Creek district in Clark and Lemhi counties (completed); Geologic reconnaissance of area east of Salmon River and south of Whitebird, a detailed study in areas about the prospects; Geologic study of the lead-zinc deposits of the Lava Creek district; Study of the economic effect of landslides on highway construction (completed); Metallurgical research; Study of gold. *Publications:* Lead-zinc-copper deposits of the Birch Creek district, Clark and Lemhi counties (*Pamph. 70*); A Landslide area in the Little Salmon River Canyon (Published in *Economic Geology,* August 1944, reprinted for Idaho Bureau of Mines and Geology).

Others.—*Project:* Preparation of geologic map of Idaho (in collaboration with the United States Geological Survey).

ILLINOIS

Basic and Economic Geology.—*Projects:* Areal investigations and geologic mapping; Engineering geology reports on highway conditions, damsites, etc.; Mississippian stratigraphy; Silurian stratigraphy; Pleistocene system; Micropaleontological studies; Paleobotany of the Pennsylvanian; Preparation of contour map of bedrock surface of the state; Geology and oil and gas resources of the Illinois basin; Secondary recovery of oil; Studies of reservoir conditions in Illinois oil pools; Oil possibilities of the Maquoketa and "Trenton" formations; Preparation and revision of development maps of active areas in Illinois oil fields; Monthly reports on drilling activity; Annual report on oil and gas development; Scouting of drilling wells and cooperation with Illinois Scout Check; General coal report; Lithological and botanical constitution of coals; Logging of Pennsylvanian strata in wells drilled for oil; Studies to determine the usefulness of coal spores as index fossils; Coal stripping possibilities of the Friendsville coal in Wabash County; Moisture-holding characteristics of the banded ingredients of coal; Smokeless briquets from coal; Investigation of combustion behavior of coal to develop improved stoker fuels; Investigation of suitability of low-sulphur Illinois coals for use in production of metallurgical coke; Chemical study of tars prepared from Illinois coals in commercial and pilot plant coking operations; The chemical constitution of Illinois coals; Proximate and ultimate analyses of Illinois coals; Study of lead and zinc resources; Amenability of clay minerals to the extraction of alumina; Fluorspar resources of southern Illinois; Utilization of fluorspar; Petrology of Illinois clays; Bonding clay properties (coop. with Dept. of Mech. Engineering, Univ. of Illinois, and sponsored by the Illinois Clay Products Co.); Surface clay resources; Research on clay and clay products (coop. with the Dept. of Ceramic Engineering, Univ. of Illinois); Investigation of the physical properties of Illinois silicas. *Publications:* Subsurface structure of the base of the Kinderhook-New Albany shale in central and southern Illinois (*Rept. Inv. 92*); Petrology of Bethel sandstone of south-central Illinois (Reprinted from *Bull. Amer. Assoc. Petrol. Geologists, 1944; Rept. Inv. 95*); Buried bedrock valleys east of Joliet and their relation to water supply (*Cir. 95*); Early Ordovician strata along Fox River in northern Illinois (reprinted from *Jour. Geology, 1943; Cir. 100*); Some geological studies reported at the State Academy of Science in 1943 (reprinted from *Trans. Ill. Acad. Sci., 1943*). Contents: (1) Pennsylvanian stratigraphy of the Carlinville quadrangle (2) Insoluble residues of the Levias and Renault formations in Hardin County (3) Bedrock surface and thickness of glacial drift in Will County (*Cir. 102*); Chemical characteristics of Illinois crude oils with a discussion of their geologic occurrence (*Rept. Inv. 88*); Water flooding of oil sands (*Rept. Inv. 89*); An experiment in the conversion of used automobile engines to oil-field power and compressor units (reprinted from the *Oil and Gas Journal, 1943; Cir. 97*); Oil-field flooding streamlined for war, a suggestion (reprinted from the *Oil and Gas Journal, 1943; Cir. 101*); Pressure maintenance by conjoint injection of gas and water, a wartime suggestion (reprinted from the *Oil and Gas Journal, 1944; Cir. 103*); Undiscovered oil reserves in Illinois and Lower Ordovician and Cambrian oil possibilities in Illinois (reprinted from the *Oil Weekly, 1944; Cir. 106*); Developments in Eastern Interior basin in 1942 (reprinted from *Bull. Amer. Assoc. Petrol. Geol., 1943; Ill. Pet. 44*); Oil and gas development in 1942 (reprinted from *Trans. A.I.M.E., 1943; Ill. Pet. 45*); Subsurface structure and oil possibilities of parts of Edwards, Richland, and Wabash counties (*Ill. Pet. 46*); Wildcat drilling since 1936 with discussion of prospects for further discoveries and table of wildcat wells completed in 1942 (*Ill. Pet. 47*); Subsurface structure and oil possibilities of parts of Clay, Marion, and Wayne counties (*Ill. Pet. 48*); Structure of Herrin (No. 6) coal bed in Christian and Montgomery counties and adjacent parts of Fayette, Macon, Sangamon, and Shelby counties (*Cir. 105*); High-purity dolomite in Illinois (*Rept. Inv. 90*); Differential thermal analysis of clays and shales—a control and prospecting method (reprinted from *Jour. Amer. Ceramic Soc., 1944, Rept. Inv. 96*); Agricultural limestone resources of Illinois—

their character and occurrence and methods of examination (*Cir. 94*); Agricultural limestone used in 1942, preliminary report (*Cir. 96*); Dolomite, limestone, cement, and lime produced in 1942, preliminary report (*Cir. 99*).

Topographic and Planimetric Mapping.—*Projects:* Albion, Alto Pass, Ashkum, Camp Grove, Elmwood, Piper City, Ramsey, and Richview quadrangles.

Water Resources.—*Projects:* Study of the stratigraphy and structure of northeastern Illinois with special reference to the ground water resources of the Joliet region, also the glacial aquifers of the Peoria region; Study of well cuttings, cores, and collection of subsurface data; Electrical earth resistivity surveys for subsurface water-bearing sand and gravel deposits; Geophysical logging of water wells; Cooperation with State Water Survey Division; Cooperation with Illinois Water Well Drillers Association. *Publication:* New development in ground water exploration (reprinted from *Jour. Amer. Water Works Assn., 1943, Cir. 98*).

Others.—*Projects:* Economic Review of Mineral Industries; Atlas of Illinois Resources (in coop. with State Post War Planning Commission). *Publications:* Illinois mineral industry in 1941 (*Rept. Inv. 87*); The Board of Natural Resources and Conservation of the Department of Registration and Education (I), The Illinois State Geological Survey in War Mineral Research (II) (reprinted from *Annual Rept.* of the Director, Dept. of Regis. and Educ. for 1942-43, 1944; *Cir. 104*).

INDIANA

Basic and Economic Geology.—*Project:* Study of the Chester Series in west-central Indiana. *Publication:* Oil and gas developments for 1943 (*A.I.M.E. Bulletin*).

Topographic and Planimetric Mapping.—(In cooperation with the United States Geological Survey.) *Projects:* Eight 7½′ quadrangles. *Publications:* Quadrangles of Iona, Sandy Hook, Monroe City, Washington, Wheatland, Epsom, Plainville, Elkinsville, Allens Creek.

Water Resources.—(In cooperation with the United States Geological Survey.) *Projects:* Water supplies for war industries and cities throughout the state; Resistivity surveys for water.

IOWA

Basic and Economic Geology.—*Projects:* Pleistocene history of Mississippi River; Stratigraphy of upper Des Moines series; Geology of Floyd County; Agricultural limestone surveys of Davis, Iowa, Jasper, Keokuk, Mahaska, Poweshiek, and Washington counties.

Water Resources. — *Projects:* Ground water resources of Cerro Gordo County; Geology and Ground water resources of Webster County; Study of stream-borne sediments, and stream temperatures. *Publication:* Surface water resources of Iowa for the period Oct. 1, 1940 to Sept. 30, 1942 (*Water Supply Paper, No. 2*).

KANSAS

Basic and Economic Geology.—*Projects:* A study of the Permian fusulinids of Kansas; A study of the Pennsylvanian fusulinids of Kansas; Petrographic studies of the Cheyenne sandstone in part of Russell County; Stratigraphy of the Marmaton group, Pennsylvanian, in Kansas; Collection of mineral statistics in cooperation with the United States Bureau of Mines; Geology and oil and gas resources of Crawford County; Oil and gas resources of Bourbon County; Oil and gas resources of Neosho County; Oil and gas resources of Chautauqua County; Oil and gas developments in western Kansas during 1944; Oil and gas fields of eastern Kansas; Oil and gas resources of Miami County; Stratigraphic and structural conditions in the Salina Basin; Shallow gas fields in the Kaw Valley between Lawrence and Kansas City; Subsurface studies of the Arbuckle of Kansas; Investigation of oil shales in Kansas; Preliminary cross sections in the Salina Basin; Correlation of the St. Peter sandstone in north-central Kansas; Collection of well samples and cores; Coal resources of the Wabaunsee group; Compilation of maps showing stripped areas in southeastern Kansas coal fields; Clays of the Dakota formation of Kansas; Preliminary report on Kansas clays; Molding sand resources of Kansas; Chemical analyses of Kansas rocks. *Publications:* Reconnaissance of Pleistocene deposits in north-central Kansas (*Bull. 52, Pt. 1*); Coal resources of the Kansas City group, Thayer bed in eastern Kansas (*Bull. 52, Pt. 3*); Tabular description of outcropping rocks in Kansas (*Bull. 52, Pt. 4*); Mined areas of the Weir-Pittsburg coal bed (*Bull. 52, Pt. 5*); Cheilotrypid bryozoans from Pennsylvanian and Permian rocks of the midcontinent region (*Bull. 52, Pt. 6*); McLouth gas and oil field, Jefferson and Leavenworth counties (*Bull. 53*); Exploration for oil and gas in western Kansas during 1943 (*Bull. 54*).

Topographic and Planimetric Mapping. — *Projects:* Topographic mapping in Cherokee, Crawford, Labette, and Neosho counties.

Water Resources.—*Projects:* Geology and ground water resources of the Equus beds area; Geology and ground water resources of Kiowa County; Geology and ground water resources of Grant, Haskell, and Stevens counties; Geology and ground water resources of Seward County; Geology and ground water resources of Scott County; Geology and ground water resources of Thomas County; Geology and ground water resources of Pawnee County; Ground water resources of Jewell and Republic counties; Ground water resources of the Kansas City industrial area; Ground water resources in the lower Arkansas valley; Ground water resources in the Smoky Hill valley from Lindsborg to Junction City; Deepwater supplies of southeastern Kansas; Geology and ground water resources of Stafford and Barton counties; Geology and ground water resources of Norton County; Observation-well program involving water-level measurements in approximately 450 wells in 35 counties. *Publications:* Ground water conditions in the Neosho river valley in the vicinity of Parsons (*Bull. 52, Pt. 2*); Geology and ground water resources of Finney and Gray counties (*Bull. 55*).

KENTUCKY

Basic and Economic Geology.—*Project:* Geology of Jackson Purchase. *Publication:* Geology of Jackson Purchase.

Water Resources. — *Projects:* Ground water studies in the Louisville Area in cooperation with the United States Geological Survey; Numerous smaller projects throughout the state are in progress.

LOUISIANA

Basic and Economic Geology.—*Projects:* Geology of Webster Parish; Revision of Oil and Gas Map; Limestone production from quarries and crushed shells.

MAINE

Basic and Economic Geology.—*Projects:* Peat research; Studies of pegmatite minerals; Sulfide investigations; Limestone studies. *Publication:* Domestic fuel possibilities of Maine peat (*Bull. 1*).

MARYLAND

Basic and Economic Geology.—*Projects:* Geologic map of Montgomery County; Exploration of lower coal seams of Georges Creek Basin.

Topographic and Planimetric Mapping.—*Project:* Revision of Washington County topographic map. *Publication:* Revised topographic map of Washington County.

Water Resources.—*Projects:* Resources of Baltimore Regional Area; Installation of five new gaging stations, operation of forty-four gaging stations; Compilation of all stream flow records. *Publication:* Compilation of Maryland stream flow records (*Bull. 1*).

MICHIGAN

Basic and Economic Geology.—*Projects:* Surface geology studies; Economic geology of areas along Pennsylvania Railroad system; Mapping of arching of glacial beaches from subsurface folding; Geological studies on the Paleozoic formations and oil and gas fields; Resurvey of gypsum deposits and industry. *Publications:* Progress report on the Michigamme Lake area, Marquette County (to be published by Michigan College of Mining & Tech. as a joint report); Geology of the Mackinac Straits area and of the northern portion of the southern peninsula (*Pub. 43, Ann. Rept. for 1944-45*); Study of warping of glacial lake beaches in relation to oil and gas structures (To be published as a Progress Rept., number not yet determined); Symposium on the geology of the Paleozoic formations of Michigan and its oil and gas fields (number of publication not yet assigned); Mineral industries of Michigan (number of publication not assigned).

Water Resources.—*Project:* Surface waters of Michigan; Ground water studies in war industry areas in Michigan. *Publications:* To be published by the United States Geological Survey.

Soil Survey.—*Projects:* Incidental to surface geology studies above.

Others.—*Projects:* Engineering geological research on oil and gas reservoirs and production practices; Appraisal of iron and copper mines. *Publications:* Report of appraisal of iron and copper mines for State Tax Department (issued Nov., 1944, for the year 1944. Not for general distribution); Oil and gas maps of two counties and four townships; 54 township and county maps revised (prints of oil and gas maps available to the public); Map of wildcat oil and gas wells of the southern peninsula (Scale: 1 in. to 8 mi. and 1 in. to 4 mi.).

MINNESOTA

Basic and Economic Geology.—*Projects:* Geology of the Duluth metropolitan area, Cook County; Elephant remains in Minnesota; Revision of geology of the Mesabi Range; Instigated a drilling program by another state commission on ilmenite; Cuyuna Range geology. *Publication:* Iron ores of eastern Minnesota (*Econ. Geol., 1944*).

Topographic and Planimetric Mapping.—*Project:* Instigated a mapping program by another state commission, with cooperation of United States Geological Survey.

Water Resources. — *Projects:* Moorhead district, cooperative study; Northeast quarter of state (stream gauging done by State Conservation Department). *Publication:* Geology and water resources of southern Minnesota (*Minn. Geol. Surv. Bull. 31*).

Soil Survey.—Carried on by Division of Soils, University of Minnesota.

MISSISSIPPI

Basic and Economic Geology.—*Projects:* Lafayette County geology and mineral resources; Lee County geology and mineral resources. *Publications:* Clay County: geology, tests, fossils (*Bull. 53*); Monroe County mineral resources (*Bull. 57*); Mississippi minerals (*Bull. 59*).

Water Resources.—*Projects:* Surface water measurements; Ground water of the Mississippi alluvial plain; Ground water of the Gulf Coastal area; Ground water annual water level. *Publications:* Geology and ground water supply at Camp McCain (*Bull. 55*); Geology and ground water supply at Camp Van Dorn (*Bull. 56*); Geology and ground water resources of the Camp Shelby area (*Bull. 58*).

MISSOURI

Basic and Economic Geology.—*Projects:* Mapping Lebanon quadrangle; Mapping Elsberry quadrangle; Oil and gas investigations in southeastern Missouri; Brown iron ores in southeastern Missouri (completed); Barite deposits; Zinc deposits in central Missouri; Clay deposits in the Ozark Region; Agricultural limestone. *Publications:* Geology of the Fredericktown District (*Rept. of Invest. No. 1*); Recent drilling in northwestern Missouri (*Rept. of Invest. No. 2*); Pyrites deposits (*Vol. 31*).

Topographic and Planimetric Mapping. — *Projects:* Twenty-two quadrangles in progress. *Publications:* Quadrangles of Protem, Marshall, Naylor, Seymore, Humansville, Iconium, Weaubleau.

Water Resources. — *Projects:* Stream gaging at 95 stations; Current water well drilling. *Publication:* Springs in Missouri (*Vol. 30*).

Others.—*Projects:* Magnetic surveys in Laclede, Crawford, and Franklin counties. *Publications:* Bibliography of the geology of Missouri (*Vol. 29*); Map of mineral resources of Missouri.

MONTANA

Basic and Economic Geology.—*Projects:* Physiography of Gravelly Range; Study of the Paleozoic limestones; Original studies of lower Cretaceous, Devonian, and Ordovician strata; Stratigraphic studies of potential oil-bearing formations in Montana; Platiniferous gold-copper deposits of the Revais Creek District; Geology and ore deposits of the Highland District; Study of future development and utilization of the extensive deposits of chromite; Study of clays. *Publication:* Gold, arsenic, and tungsten deposits of the Jardine-Crevasse Mountain District, Park County, (*Mem. No. 23*).

Water Resources.—*Project:* General study of water resources of Montana.

Others.—*Projects:* Mineral-dressing and metallurgical studies for beneficiation of Montana ores; Geologic map of Montana (in cooperation with the United States Geological Survey).

NEBRASKA

Basic and Economic Geology.—*Projects:* Surface stratigraphic studies; Subsurface stratigraphic studies; Bicrobula, a new Permian bryozoan; Study and revision of Thamniscus; Bryozoa from the Permian of west Texas; Evolution of Mesolobus and age of the earliest Walchia; Palaeocoryneae, epizoic algae of late Paleozoic age; Mineral resources map; Topographic region map. *Publications:* Study and revision of Archimedes (Hall, *Geol. Soc. Am. Spec. Pap. 53*); Carboniferous and Permian Ctenostomatous bryozoa (*Bull. Geol. Soc. Am., 55*); Occurrence of the Russian genus Rhombotrypella in Utah (*Jour. Pal., 18*); Hederella and Corynotrypa from the Pennsylvanian (*Jour. Pal., 18*); Auloporoidae and Hederelloidea (*Jour. Pal., 18*).

Water Resources. — *Project:* Groundwater resources of Richardson County. *Publication:* Groundwater resources of Republican Valley.

NEVADA

Basic and Economic Geology.—*Project:* Geologic study of the Groom mining district. *Publications:* Lower and Middle Cambrian Stratigraphy in the Great Basin Area (*Geol. & Min. Ser. 39*); Geology of Nevada Ore Deposits and Mining Districts (*Geol. & Min. Ser. 40*); Quicksilver Deposits of Nevada (*Geol. & Min. Ser. 41*).

NEW HAMPSHIRE

Basic and Economic Geology.—*Projects:* Geologic maps of the Bellows Falls, Plymouth, and Mount Washington quadrangles (in coop. with Harvard Univ.). *Publications:* Ore Hill zinc mine (*Spl. Rept.*); Sillimanite deposits in the Monadnock quadrangle, New Hampshire (*Min. Res. Series,* Pt. 8).

Others. — *Project:* Cooperative work with state and regional mineral resource and conservational organizations.

NEW JERSEY

Basic and Economic Geology.—*Projects:* Notes on the geology of different parts of the state are constantly being added to our permanent files as new data becomes available through the study of new highway cuts and similar exposures, and well samples; The study of cuttings from water wells and all types of exploratory holes is a continuing project which is providing information on the stratigraphy of southern New Jersey now useful to oil companies interested in that area; The undeveloped iron ore deposits are being explored by the United States Bureau of Mines; Cooperative study with Rutgers Research Council of the sands of New Jersey. *Publication:* Copper mines and mining in New Jersey (*Bull. 57*).

Topographic and Planimetric Mapping.—*Projects:* Somerville topographic map (completed); Atlantic City, Camden, Mt. Holly and Trenton East, and atlas sheet 35 nearly completed. *Publications:* Atlas sheet 27; Pluckemin sheet.

Water Resources.—*Project:* Continuing study of the ground-water resources of New Jersey. *Publication:* The ground water supplies of Middlesex County (*Special Rept. 8.* In coop. with the New Jersey Water Policy Commission).

Others.—*Publication:* Bench Marks in Cumberland and Salem counties.

NEW MEXICO

Basic and Economic Geology.—*Projects:* Bibliography of New Mexico geology; Geology and petroleum possibilities of the Gran Quivira quadrangle; Fluorspar in New Mexico; Geology of the Petaca District with reference to mica. *Publications:* Manganiferous iron-ore deposits near Silver City (*Bull. 19*); Stratigraphy of the Colorado Group, Upper Cretaceous, in northern New Mexico, (*Bull. 20*).

NEW YORK

Basic and Economic Geology.—*Projects:* Geology of the Cattaraugus quadrangle; Geology of the Schunnemunk quadrangle (map revision); New name for Paleozoic fossil Homonyms; Middle Devonian nautiloids of New York; Devonian crinoids of western New York; (The following projects completed) Geology of the Utica quadrangle; Glacial geology of the Syracuse Region; Geology of the Saranac Lake quadrangle; The Clinton of western and central New York; Cephalopods of the Tully limestones of New York; Hamilton cephalopods of New York; A belemnite from a Mississippian boulder of the Caney Shale; Atractites and related coleoid cephalopods; Classification of Devonian nautiloids; Geology of the Lake Sanford titaniferous iron ores; Magnetic survey of iron ore body near Crown Point; Clays and shales of New York (in progress). *Publications:* Geology of the Lake Sanford titaniferous iron ores (*New York State Mus. Bull.*); Occurrence and uses of wollastonite from Willsboro (*A.I.M.E. Tech. Pub.*); Notes on Thamnocrinus Springeri, and other Hamilton crinoids (*Amer. Jr. of Sci.*); Geology of the Coxsackie quadrangle (*Mus. Bull. 332*); Geology of the Catskill Quadrangle, Part I; Cambrian and Ordovician geology (*Mus. Bull. 331*).

NORTH CAROLINA

Basic and Economic Geology.—*Projects:* General geology; Metallic and nonmetallic mineral studies.

Water Resources. — *Project:* Ground water resources.

NORTH DAKOTA

Basic and Economic Geology.—*Projects:* Slide near Amidon; Shorelines of Ancient Devils Lake; Study of the western shore of Lake Agassiz; Geology and geography of North Dakota; History of North Dakota Geological Survey. *Publications:* Geology of Turtle River State Park (*Bull. 16*); Geology and ground water resources of the Emerado Quadrangle (*Bull. 17*).

Water Resources. — *Projects:* Ground water resources of Minot and Souris River area; Ground water resources of Dickinson and Fessenden; Ground water resources of Devils Lake area; Ground water resources of Fargo-Moorhead area; Ground water study for Bureau of Mines plant at the University of North Dakota; Ground water study for Jamestown Hospital; Observation well program.

Others. — *Publication:* Twenty-third Biennial Report of the North Dakota Geological Survey.

OHIO

Basic and Economic Geology.—*Projects:* Field study of the Monongahela series in eastern Ohio; Field study of the Sharon conglomerate in eastern Ohio; Field study of the iron ores in southern Ohio; Limestones of eastern Ohio; Preparation of report on flint (completed). *Publication:* Geology of water.

Others.—*Publications:* The iron ore bearing formations of Ohio (A compilation); Paper on coal (in the *Eng. Exp. Sta. of Ohio State Univ. Studies*); Papers on sandstone and conglomerates, and dolomites (in the *Ohio Acad. of Sci. Jr.*).

OKLAHOMA

Basic and Economic Geology.—*Projects:* Arbuckle limestone (Cambro-Ordovician) by siliceous residues (in coop. with the United States Geological Survey); Oklahoma Geological Survey on surface outcrops; Well cuttings (With United States Geological Survey); General geology, coal, and gas structures of northern LeFlore, and Haskell counties; Re-mapping area of glass sand deposits in Arbuckle Mountains; Continuation of study of dolomites; Re-mapping certain asphalt deposits, Arbuckle Mountains (with United States Geological Survey); Asphaltites in southeastern Oklahoma. *Publications:* Barite in Oklahoma (*Cir. 23*); Broken Arrow Coal and associated strata (*Cir. 24*), (also, *Bull. Amer. Assn. of Petrol. Geol., July, 1944*); Bibliography of oil pool names in Oklahoma for 1942 (*Min. Rept. 17*); General geologic section of Oklahoma oil producing areas (*National Oil Scouts and Landmen's Yearbook*); Manganese deposits of the Bromide District, (*Econ. Geol.*); Director's Biennial Report for 1943-44.

Water Resources. — *Projects:* Garber sandstone, Cleveland and Oklahoma counties; Roubidoux sandstone, Ottawa County; Whitehorse sandstone, southwestern Oklahoma; Numerous emergency services.

Others.—*Publications: The Hopper,* mimeographed monthly magazine on Oklahoma mineral industries and activities of Oklahoma Geological Survey; Minerals in Oklahoma (Colored map).

OREGON

Basic and Economic Geology.—*Projects:* Geologic map and geology of Albany, Lebanon, Salem, and Stayton Quadrangles; Geologic map of Telocaset Quadrangle; Coos Bay, coal investigation; Economic resources of beach deposits; Oregon coast preliminary report on high alumina iron ores, Washington County, Antimony in Oregon; Memoranda on steel foundry sand at Eugene; Investigation of calcite occurrences near Owyhee Reservoir, Malheur County; Investigation of building stone occurrences; Reconnaissance survey of oil and gas possibilities of Oregon; Survey of glass sand possibilities. *Publications:* Preliminary report on high-alumina iron ores in Washington County (*GMI 12*); Antimony in Oregon (*GMI 13*); Geology and coal resources of Coos Bay quadrangle (*Bull. 27*).

Others.—*Publications:* Soil, its origin, destruction and preservation (*Bull. 26*); Steel foundry sands at Eugene (*Misc. Paper 7*).

PENNSYLVANIA

Basic and Economic Geology.—*Projects:* Geology and mineral resources of southeastern Clearfield County; Geology and mineral resources of the Smicksburg Quadrangle; Large-scale copies of field maps of certain quadrangles in northern Pennsylvania; Continuation of the study of deep oil and gas sands; Oil and gas of the Warren and Sheffield quadrangles; Oil and gas of the Kinzua quadrangle; Maps of each of the sands for the whole oil and gas area of Pennsylvania; Study of high-alumina clays as a source of aluminum. *Publications:* Pennsylvania's mineral heritage; Oil-bearing sands of southwestern Pennsylvania.

Topographic and Planimetric Mapping.—*Projects:* Barclay, Bushkill, Hyner, LeRaysville, Bitumen, Houtzdale (remapped), Montrose, Driftwood quadrangles; Additional six quadrangles being remapped for the War Department. *Publications:* Canton and Ridgway quadrangles.

Water Resources. — *Projects:* Continuation of well gaging; Intensive study of ground water resources of the Philadelphia region.

Others.—*Publications:* Brochure on "Quarterly Century of Progress"; Eagles Mere, interesting geologic center (*Monthly Bull.*); Geology and mineral resources in war (*Monthly*

Bull.); Role of geology and mineral resources in war (*Monthly Bull.*); Hazelton, state's highest city (*Monthly Bull.*); Possible future oil pools in Pennsylvania (*Monthly Bull.*); Cave explorers form organization (*Monthly Bull.*); Earthquake, September 5, 1944 (*Monthly Bull.*).

RHODE ISLAND

Basic and Economic Geology.—*Project:* Ground water conditions in the vicinity of Providence and adjacent cities (in coop. with the United States Geological Survey). *Publication:* Bibliography of the geology of Rhode Island.

SOUTH CAROLINA

Basic and Economic Geology.—*Project:* Sillimanite deposits of South Carolina.

Others.—*Publication:* Mineral resources of South Carolina.

SOUTH DAKOTA

Basic and Economic Geology.—*Projects:* Regional structure in Dewey and Corson counties; Hydrogenation possibilities of South Dakota's lignite. *Publications:* Mineral resources of South Dakota (*Bull. 15*); Pegmatites of the Beecher Basin (*Rept. Inv. 48*).

Water Resources. — *Projects:* Ground water levels in eastern South Dakota; Sioux Falls water supply.

Topographic and Planimetric Mapping.—*Publication:* Topographic map of South Dakota.

TENNESSEE

Basic and Economic Geology.—*Projects:* Reconnaissance areal mapping of middle Tennessee; Geologic sections on bluffs of western Tennessee River; Scouting and compilation of oil and gas activities; Study of well cuttings and insoluble residues; Areal mapping of coal beds in several districts; Manganese deposits of east Tennessee; Zinc deposits of Tennessee; Red (Clinton) iron ore at Chamberlain; Middle Tennessee phosphate deposits; Clay deposits of Tennessee. *Publication:* Geology and manganese deposits of northeastern Tennessee.

Water Resources.—*Project:* Gaging surface streams.

Others.—*Publication:* Map of oil and gas in Middle Tennessee.

TEXAS

Basic and Economic Geology.—*Projects:* Geology and minerals of the Llano region; Mississippian of the Llano region; Geology of Houston County; Investigation of Coastal Plain geology; Geology of Texas High Plains; Study of vertebrate fossil collection; Revision and compilation of data for new edition of map showing oil and gas fields and structure; Study of the Ellenburger group of formations; Minerals of Trans-Pecos Texas; Mineral locality map of Texas. *Publications:* Building stones of central Texas (*Univ. of Texas Pub. 4246*); Texas mineral resources (*Univ. of Texas Pub. 4301*); The carboniferous rocks of the Llano Region of central Texas (*Univ. of Texas Pub. 4329*); Contributions to geology, 1944 (*Univ. of Texas Pub. 4401*); Petroleum resources of Texas.

VERMONT

Basic and Economic Geology.—*Project:* Copper deposits of Orange County. *Publication:* Biennial Report of the State Geologist.

Topographic and Planimetric Mapping.—*Project:* Corinth quadrangle by United States Geological Survey.

VIRGINIA

Basic and Economic Geology.—*Projects:* Geology and mineral Resources of Clarke and Frederick counties; Geology of the Hot Springs district; Geology of Shenandoah National Park and environs; Geology and mineral resources of Abingdon quadrangle; Geology and mineral resources of Buena Vista quadrangle; Geology and mineral resources of Vesuvius quadrangle; Geology and mineral resources of Stony Man quadrangle; Geology and mineral resources of the Lynchburg quadrangle; Geology and mineral resources of Natural Bridge district; Outline of geology and mineral resources of Smyth County; Outline of geology and mineral resources of Augusta County; Geology and mineral resources of the Mount Rogers district; Common rocks and minerals of Virginia; Outline of the geology of Virginia; Geology of Virginia State parks; Guidebook to the Lee Highway (U. S. Route 11); Guidebook to U. S. Route 250; Geology of oil and gas in Lee County (in coop. with United States Geological Survey); Bauxite in Augusta County (in coop. with United States Geological Survey); Northeast Piedmont zinc district; Industrial limestones and dolomites of Virginia; Mica deposits; Piedmont marble belt. *Publications:* Geology and mineral resources of the Burkes Garden quadrangle (*Bull. 60*); Geology and manganese deposits of the Glade Mountain district (prepared by the United States Geological Survey) (*Bull. 61*); Industrial limestones and dolomites in Virginia, New River-Roanoke River district (*Bull. 62*); Stones River equivalents in the Appalachian region (*Jr. of Geol.*); Virginia minerals in war (reprint); Outline of the geology and mineral resources of Rockingham County.

Topographic and Planimetric Mapping.—*Projects:* Craigsville, Lovingston, McDowell, Mint Spring, Mount Jackson, Parnassus, Pounding Mill, Richlands, and Scottsville quadrangles.

Water Resources. — *Projects:* Geology and ground water of the York-James Peninsula; Chemical character of Coastal Plain ground waters; Selected well logs from the Virginia Coastal Plain. *Publications:* Geology and ground water resources of the Coastal Plain in southeastern Virginia (*Bull. 63*); Structural geology of southeastern Virginia (*Bull. A.A.P.G.*); Municipal and industrial ground water supplies in Tidewater Virginia (*Virginia Municipal Review*); Ground water supplies and studies (*Virginia Municipal Review*).

Others.—*Publication:* Background of conservation (*The Commonwealth*).

WASHINGTON

Basic and Economic Geology.—*Projects:* Petroleum resources of the Olympic Peninsula; Coal in southwest Washington; Statewide study of tungsten, chrome, iron, nickel, and copper; Statewide study of dolomite, mica, quartz crystals, bentonite, and diatomite. *Publications:* Stratigraphic aspects of the Blewett-Cle Elum iron ore zone (*Rept. of Inv. 11*); Economic aspects of the Blewett-Cle Elum iron ore zone (*Rept. of Inv. 12*); Dolomite resources of Washington, part I (*Rept. of Inv. 13*).

Topographic and Planimetric Mapping.—*Project:* Work continuing on two quadrangles (cooperative). *Publication:* Medical Lake quadrangle (cooperative).

WEST VIRGINIA

Basic and Economic Geology.—*Projects:* Drill cuttings from oil and gas wells; Possible increase in oil and gas in Mississippi formations; Composition and properties of petroleum; Study of oil and gas well cores for secondary recovery; Composition and properties of natural gas; Natural gas, gasoline, propanes, and butanes; Oil and gas resources of Wetzel County, West Virginia; Coal hydrogenation; Properties of mine roof and prevention of roof falls; Clays of West Virginia. *Publications:* Deep well in Harrison County (*Bull. A.A.P.G.*); Deep well in Russell County, Virginia (submitted to *Bull. A.A.P.G.*); Chemistry of brines (*Abst. Bull. G.S.A.*); Oriskany natural gas, composition and properties (*Ind. and Engr. Chem. 36*); Heating value of natural gas (*Ind. and Engr. Chem. 36*); Fracture zones in mine strata (*Mining Congress Jour., 30*).

Topographic and Planimetric Mapping.—*Project:* Structural map of Oriskany sand of West Virginia.

Water Resources. — *Projects:* Ground water resources of West Virginia; Stream gaging in West Virginia.

Others.—*Project:* Rock and mineral specimen collections for schools.

WISCONSIN

Basic and Economic Geology.—*Project:* Investigation of minerals in vicinity of Wausau.

Topographic and Planimetric Mapping.—*Project:* Areal mapping in cooperation with United States Geological Survey and Highway Department. *Publication:* Ogema Planimetric map.

WYOMING

Basic and Economic Geology.—*Projects:* Inventory of Wyoming mineral occurrences; Basic studies pertinent to occurrence of petroleum and subsurface water; Petroleum developments in Wyoming, 1939-1944; Vanadium in Wyoming crude oils; Titaniferous magnetites of the Laramie Range; Hematite deposits in the Hartville uplift; Sericite deposits near Wheatland, Fluorite deposits in the Bear Lodge Mountains. *Publications:* Wyoming vermiculite deposits (*Bull. 34*); Como Bluff anticline, Albany and Carbon counties, Wyoming (*Bull. Amer. Assn. Petrol. Geol. 28*).

RECLAMATION AND IRRIGATION

By Harry W. Bashore

Commissioner, Bureau of Reclamation, Department of the Interior

RECLAMATION PROJECTS

The Bureau of Reclamation closed the fiscal year June 30, 1944, with new records in war food and war power production and a post-war program, which, when approved by Congress, will offer employment and settlement opportunities to thousands of returning service men and demobilized war workers.

Although last minute crop returns have not been tabulated, it is believed that farmers on irrigation projects topped their 1943 production record of 10,660,000 tons of food and forage crops valued at $388,670,969.

Reclamation is now the largest single producer of power in the world. Since the attack on Pearl Harbor, 30 hydroelectric plants on reclamation projects have quadrupled their output. With a present installed capacity of 2,440,275 kilowatts, these plants generated 13,747,000,000 kilowatt-hours during the fiscal year.

When generators on all existing projects and on those authorized are placed in operation, the aggregate installed capacity will be 4,863,075 kilowatts.

BOULDER DAM

Two of the major power producers are plants at Boulder and Grand Coulee dams. Boulder Dam's power plant now has 12 82,500-kilowatt units (Unit N-7 of this size was installed in 1944); one 40,000-kilowatt unit, and two station service units, bringing the total capacity of the plant to 1,034,800 kilowatts.

Boulder Dam was constructed by the Bureau of Reclamation as a part of the Boulder Canyon multiple-purpose project. It is the principal source of power in a network of transmission lines serving the Los Angeles metropolitan area. Airplane plants and war industries producing steel, ammunition, ships, and synthetic rubber operate under its energy.

During the period September 1942-1944, power generated at Boulder Dam was used to produce 159,667,917 pounds of magnesium for war purposes. On June 11, 1943, the Boulder power plant set a new record when it carried a peak load of more than 1,000,000 kilowatts with an installed capacity rated at 952,300 kilowatts. This was the first time a single power plant operated at more than a million kilowatt capacity.

Boulder Dam also regulates the supply of water for irrigation of the highly developed and richly productive lands in the Imperial Valley of California and the Gila and Yuma projects in Arizona. It has reduced the destructive Colorado River floods and has made available a daily supply of 1,000,000,000 gallons of domestic water to the Metropolitan Water District comprising Los Angeles and 12 other coastal California cities.

GRAND COULEE DAM

Second to Boulder Dam power plant in capacity is the plant at Grand Coulee Dam, constructed by the Bureau of Reclamation on the Columbia River in the State of Washington. Here six of the largest hydroelectric generators in the world, each rated at 108,000 kilowatts, and two units at 75,000 kilowatts, supply power for war industries in the Pacific Northwest. This plant also will furnish energy for pumping water to a 1,000,000-acre reclamation project in the Columbia Basin, where settlement opportunities will be provided for servicemen and women.

When all generators have been installed, the capacity of Grand Coulee power plant will be greater than that of Boulder. Ultimate capacity of the Boulder power plant is 1,322,300 kilowatts, while Grand Coulee will have a total installation of 1,974,000 kilowatts under post-war construction plans of the Bureau.

POST-WAR PROJECTS IN THE WEST

Near the end of the fiscal year the Bureau of Reclamation submitted to the Senate Committee on Post-war Economic Policy and Planning an inventory of 236 irrigation and multiple-purpose projects in the West. These possible projects could be included in a post-war public works program to provide employment for returning veterans and war workers and to make available, to those qualified, livelihoods on irrigated farms. Thirty-nine of these projects or features of them have been authorized, and limited work on some is going forward under war food or war power programs of the Bureau of Reclamation.

The contemplated program would create an estimated 135,000 new farms. It also would bring greater security to 150,000 additional families now handicapped by water supplies inadequate for maximum crop production.

The projects in the inventory would extend irrigation service to 6,705,000 acres and, in addition, furnish supplemental water for 9,364,000 acres now inadequately watered. Construction of irrigation features on authorized projects alone would create 70,000 new farms and overcome the water deficiency of 100,000 existing farms. The same reservoirs which will serve irrigation can provide 1,765,000 kilowatts of new power for industrial use through expansion of existing Bureau installations and 2,579,000 kilowatts of firm power capacity on projects under study.

CURRENT IRRIGATION PROJECTS

At the close of 1944, the Bureau of Reclamation had in operation, under construction, or authorized 78 irrigation and multiple-purpose projects under its pre-war or war programs in 17 western states to which its activities are confined. Fifty-two of these are producing food supplies, electric energy, and furnishing municipal industrial water. Because of the war, important features remain to be completed on many operating projects. The War Production Board, however, issued clearances permitting the Bureau of Reclamation to undertake wartime construction bringing under irrigation for war food purposes 243,657 acres of new land and providing supplemental water to 1,022,125 acres now irrigated but handicapped by shortages in moisture.

MISSOURI RIVER DEVELOPMENTS

On Dec. 22, 1944, the President signed the Flood Control Bill, H. R. 4485, which includes an amendment approving the Bureau of Reclamation's comprehensive plan for postwar development of the water resources of the Missouri River Basin for irrigation and electric power purposes.

In the Bureau's over-all plan for the Missouri Valley, there are 187 multiple-purpose or irrigation projects located in seven states (Montana, Wyoming, North Dakota, South Dakota, Nebraska, Kansas, Colorado) and a power transmission grid to distribute electric energy provided at hydroelectric plants.

The Flood Control Bill authorizes initial construction of 29 major projects with seven power plants, having an installed capacity of 646,000 kilowatts. Ultimate cost of this preliminary construction is $443,289,000. The bill also authorizes the appropriation of $200,000,000 toward this construction.

IRRIGATION ACREAGE

On completion of authorized projects in its pre-war, war, and post-war programs, including the Missouri Valley, the Bureau of Reclamation will increase the total irrigated acreage it serves to about 15,000,000 acres. This is nearly four times the amount now served with full supplementary irrigation supplies. About one-third of the ultimate aggregate acreage will receive a total supply of water. The remainder is in irrigated land where water supplies are at the present time inadequate for crop production.

SHASTA DAM

During 1944, with limitations on material and manpower shortage, the Bureau of Reclamation continued construction work on a score of its projects under the war food or war power programs.

Shasta Dam on the Sacramento River, key structure of California's Central Valley project, began serving irrigation and power needs this year. Although the reservoir contained only 1,175,000 acre-feet, water stored by Shasta Dam was released to provide supplemental supplies needed for irrigating 255,000 acres of rice and general crops in the Sacramento Valley. The full capacity of the reservoir will be 4,500,000 acre-feet.

June 26, 1944, two 75,000 kilowatt generators at Shasta Dam power plant went to work for war industries. The power plant ultimately will generate 1,500,000,000 kilowatt-hours a year.

A 100-mile transmission line between the dam and Oroville, Calif. was completed in 1944 and placed in operation.

Shasta Dam is of the massive arched gravity type, 602 feet high from the lowest point in the foundation and 3,500 feet long. It will contain 5,556,667 cubic yards of concrete.

KESWICK DAM

Nine miles below Shasta Dam on the Sacramento River is Keswick Dam, which is 65 per cent complete. Keswick Dam is a straight gravity, concrete structure 138 feet high and 912 feet long at the crest. It will contain 175,000 cubic yards of concrete. An important job of Keswick Dam is to protect migratory fish by regulating the hourly fluctuation in discharge from the Shasta Power plant to a more or less uniform flow. The fish trap is also in operation. A 75,000-kilowatt capacity power plant here will supplement Shasta Dam's 375,000 kilowatt capacity. Keswick Power Plant is partly built but awaits War Production Board approval for completion and installation of equipment.

FRIANT DAM

Friant Dam, which also will serve the Central Valley project, was finished in 1944 except for control gates on the spillway and permanent valve installations in canals and river outlets. It is a concrete straight gravity type of structure containing 2,130,000 cubic yards of concrete. It is 320 feet high and has a crest length of 3,430 feet. Three 84-inch diameter needle valves were borrowed from Boulder Dam and used in Friant Dam to control water to be released at Friant into Madera and Friant-Kern Canals.

ALTUS DAM

Altus Dam (Lugert-Altus project, Oklahoma) will be ready to serve 20,000 acres in 1945. Completion of the dam was authorized by the War Production Board in April, 1944, to provide a supplemental water supply to the city of Altus and to furnish irrigation water to a total of 43,000 acres. Completed, this dam will be 110 feet high and 1,100 feet long at the crest and will contain 80,000 cubic yards of masonry.

ANDERSON RANCH DAM

Construction on Anderson Ranch Dam of the Boise project (Idaho) was resumed after a delay of about a year due to war restrictions. It is now 57 per cent complete. When finished, Anderson Ranch Dam will be the highest earth-fill structure in the world, 444 feet, with crest length of 1,350 feet. It will provide a supplemental supply of water to the highly productive land in the Boise area, where 340,000 acres are now wholly or partially served by Bureau of Reclamation systems. Ultimately, the dam will contain 9,600,000 cubic yards of material. The structure also will aid in controlling floods. Its power plant, deferred for post-war construction, will develop 27,000 kilowatts of power.

OTHER DAMS

Shadow Mountain Dam of the Colorado-Big Thompson project is 70 per cent complete. It will facilitate diversion of the flow from the North Fork of the Colorado River and enlarge the existing Grand Lake. When completed, it will be 50 feet high above the bed of the river and 3,000 feet long at the crest. It will make available about 90,000 acre-feet of water a year for diversion through the tunnel to increase food production on the western slope of the Rocky Mountains.

Newton Dam, on the Newton project (Utah), was almost completed during the year 1944. An earth and rock-fill structure, it will replace an old deteriorated dam built by local interests. The new structure will contain 410,000 cubic yards of earth and rock, be 109 feet high, and 640 feet long at the crest.

Scofield Dam.—Another dam to replace a deteriorated structure is Scofield Dam in Utah, to be completed in 1945. The dam will be 105 feet high, 1,400 feet long at the crest, and contain 190,000 cubic yards of earth and rock-fill.

Box Butte Dam.—Under construction in the Mirage Flats project near Hay Springs, Nebraska, is the Box Butte Dam, an earth and rock-fill structure which is the chief engineering feature of the project. The reservoir on the Niobrara River will have a 30,000 acre-feet capacity to provide a full water supply for 12,000 acres of good farm land. On Jan. 29, 1944, the War Production Board approved the project under the war food program. Originally, the project was authorized in 1940, but halted in 1942 by the War Production Board.

Hungry Horse Dam.—Construction of Hungry Horse Dam, a major feature of the comprehensive plan for the multiple-purpose development of the Columbia River in the Pacific Northwest, was authorized by act of Congress on June 5, 1944. This structure will be erected on the South Fork of the Flathead River, a Montana tributary of the Clark Fork of the Columbia River. It will increase the firm output of Grand Coulee Dam and Bonneville Dam through regulation of the flow of the Flathead River.

Montana Dam Project.—This act also authorizes an irrigation development in the vicinity of Kalispell, Montana. Present construction plans contemplate the storage of 1,000,000 acre-feet of water and the installation of 80,000 kilowatts of power capacity at the site. Ultimate development by the Bureau would provide a dam which would increase the storage capacity to 1,500,000 acre-feet and provide a total power installation at the site of 142,000 kilowatts.

ALVA B. ADAMS TUNNEL

The 13-mile Alva B. Adams tunnel under the Continental Divide in Colorado was holed through June 10, 1944. Surveys by engineers of the Bureau of Reclamation were so accurate that the east and west bores were holed through within a fraction of an inch of each other. The checkup showed that the alignment of the two sections of the tunnel coincided within three-fourths of an inch. The tunnel is part of the Colorado-Big Thompson project and is now being lined with concrete. It will bring water from the Pacific slope of the Rockies to the eastern side, furnishing supplemental irrigation water for 615,000 acres of fertile land in northeastern Colorado.

CANALS

Madera Canal.—The 37-mile Madera Canal of the Central Valley Project (Calif.), which will deliver water to irrigated land from the reservoir behind Friant Dam, is complete to Fresno River. The operation of Friant Dam and Madera Canal will benefit about 240,000 acres.

Costa Canal.—The 46-mile Contra Costa Canal of the Central Valley project (California) was nearly completed in 1944. Industries in the Antioch-Pittsburgh area of the Delta region of the Central Valley now receive fresh water by means of this system. The canal has a diversion capacity of 350 cubic feet of water per second.

Provo Reservoir Canal of the Provo River project (Utah) is being enlarged. Authorization permits increasing the canal capacity for a distance of 22 miles. The added capacity will make it possible to provide a supplemental supply of water to an additional 19,300 acres of land. Work continued during the year on enlarging the Weber-Provo Diversion Canal of the Provo River project to a capacity of 1,000 second-feet. This work is complete with the exception of some structures. Progress was made during the year on the Salt Lake City aqueduct of the Provo River Project (Utah). This aqueduct will bring a supplemental supply of water to Salt Lake City, Utah. The system will be 40 miles long and the capacity of the pipe, about 150 second-feet.

Coachella Canal.—The 130-mile Coachella Branch of the All-American Canal under the Bureau's Boulder Canyon project is more than half completed. The Coachella Canal will provide water for the irrigation of some 195,000 acres of desert lands which lie to the east of the Imperial Valley's irrigated section, and it will insure also an adequate irrigation supply for lands in the Coachella Valley.

RESERVOIR STORAGE CAPACITY

Storage capacity of 81 Reclamation reservoirs was increased by about 5,000,000 acre-feet during the fiscal year. The June 30, 1944, capacity was 69,174,919 acre-feet. The active water storage—more than 53,500,000 acre-feet—was also at a record level.

RECLAMATION FINANCING

Repayments to the government for the costs of Bureau of Reclamation facilities come primarily from the water users on irrigation projects and from power consumers. Construction is financed from the Reclamation revolving fund made up of repayments, proceeds, from oil leases, sales of public lands, etc., supplemented by direct appropriations from the Federal Treasury. All construction funds are appropriated by Congress. It has been estimated that power revenues alone will repay half the investment in projects authorized at the beginning of the war. Construction costs to June 30, 1944, were about $923,000,000.

RECLAMATION BENEFITS

Nearly 5,000,000 persons live in areas which receive power and water from Bureau of Reclamation systems. About 3,500,000 benefit from power and domestic water, and 1,257,395 live on the 91,120 farms or in cities and towns on Federal irrigation projects. These irrigation developments support 338 towns, 1,207 schools, 1,514 churches, and 137 banks, with deposits totaling $500,000,000. When the construction program now authorized is completed, the various services of the Bureau of Reclamation will be extended to areas in which reside more than 10,000,000 persons.

PUBLIC LANDS

By Fred W. Johnson
Commissioner, General Land Office, Department of the Interior

POST-WAR PLANS

The most effectual use of the public lands under national conservation safeguards to meet the demands for post-war utilization of the nation's natural resources, is contemplated in plans formulated in 1944 by the General Land Office for the administration of the millions of acres of the public domain under its jurisdiction in the continental United States and Alaska. Including recommendation for new legislation to modernize present Federal land laws, the after-the-war program encompasses such problems and land settlement opportunities for returned soldiers, the development and settlement of the public lands in Alaska, provisions for an increased supply of mineral resources from the public domain, and the proper peacetime use of tracts now devoted to training areas, target ranges, and other military purposes.

SOLDIER SETTLEMENT

American servicemen have become more land-conscious than any group of comparable numerical strength in recent years. Trained in camps far from their homes, and later transferred to foreign lands, they have acquired a yearning for a home of their own, which in many instances means a homestead on government land. The furnishing of an adequate number of land areas to meet that demand is a high priority problem facing the General Land Office in the post-war era. Its solution is complicated by the fact that homesteading, as popularly understood, was first set under way by President Lincoln 82 years ago and that, as a consequence, good farm land upon which an agricultural living can be made as required by the homestead law, is scarce on the vacant, unappropriated, and unreserved public domain in the United States which still remains in Federal ownership. Parenthetically, this is not the case with respect to the public land in Alaska, where good agricultural areas still are open to settlement, nor, obviously, to such farmlands as may be made available on Federal reclamation projects.

Meantime, another and broader opportunity for land settlement by World War veterans as well as civilians is afforded under the terms of a law which authorizes the lease or sale of not to exceed five acres of public land for home, camp, cabin, health, convalescent, recreational, or business purposes. Popularly known as the "small sites" act, this law does not require the making of a living by agriculture upon the land.

The gratitude of the nation for its fighting forces has always been reflected after other wars in the granting of special privileges to veterans in the acquisition of the public land. Credit for military service, for example, was given in meeting the time requirements involved in securing land under the homestead laws. The extension of similar credit to veterans of this war is authorized in legislation advocated by the General Land Office which had passed the House of Representatives, but not the Senate, by the end of the fiscal year. Its final approval will prove another favorable factor in soldier settlement plans in the post-war period. (This Act [Public Law 434] was approved by the President on September 27, 1944. It gives credit up to 2 years for military service in meeting residence and cultivation requirements under the homestead laws, and grants veterans during the next 10 years a 90-day preference right of application under the homestead or desert land laws, and the small site leasing act.)

ALASKA DEVELOPMENT PLANS

Popular interest in Alaska reached new heights during the year. The presence of American troops, the construction of the military highway system, and the influx of civilian workers on the many construction projects in Alaska have focused attention upon the possibilities of the area for permanent homes. In advance of anticipated post-war demands, trained technicians were sent to the Territory by the General Land Office near the end of the fiscal year, in order that plans could be ready for an orderly development of land settlement activities which would safely avoid the disastrous ghost-town experiences of earlier settler days on the mainland. Meantime, deluged with requests for information, the Office distributed tens of thousands of leaflets and other publications setting forth the basic requirements for land settlement in the Territory under Federal law. The principal point stressed in all the material is the fact that, contrary to popular belief, it is not possible to secure public land on an "order by mail, sight unseen basis," since Federal statutes require personal inspection and full knowledge of the general characteristics of any piece of land for which application may be made.

ALASKAN FIRE CONTROL SERVICE

The Alaskan Fire Control Service completed its fifth year of activities on the public domain in Alaska in 1944 with a record of the lowest fire losses yet sustained during its operations in the Territory. However, despite cooperation between the various Federal agencies and the military forces in Alaska, coupled with unusually favorable weather conditions from the standpoint of fire protection, the Service nevertheless was called upon to suppress 61 fires which burned 53,686 acres during the year. Handicapped by restricted funds and personnel, it was powerless to undertake suppression work on 13 fires in other areas which consumed more than 180,000 acres.

TRAINING AREAS

A segment of the public domain equal to more than half the total land surface in New York State has been directly dedicated to war purposes. Some set aside for national defense use even before Pearl Harbor, these 15,400,000 acres withdrawn by public land orders or executive orders, swiftly were transformed into troop training areas, target ranges, tank maneuver grounds, aerial bombing ranges, and other forms of military reservations. All of these lands were mustered into active service only for the duration of the war, with the stipulation that the tracts would return to their "civilian" status in the public domain six months after Presidential proclamation that the emergency is at an end.

The fitting of these "demobilized" lands into the post-war economy will constitute another element in General Land Office activities. Some of the tracts, formerly so isolated as to be of minor use, now are made more accessible by the construction of military roads and other improvements. Whether tracts of such a type will present additional opportunities for small site or other form of settlement after the war, is a major angle to this post-war land administration problem.

NATURAL RESOURCES

A broader responsibility in the conservation of natural resources on the public domain forms still another factor in General Land Office operational plans for the period after the war. Widening the scope of these activities, Congress during the past fiscal year passed a law extending the policy of sustained yield timber management to all the public land. The application to the entire public domain of this principle which has been so successful in the development and production of forest products on 2,500,000 acres of revested Oregon and California railroad grant lands, is calculated to prove a distinct contribution in the solution of post-war economic problems.

The part that the public lands may plan in the expansion of air-borne transportation facilities after the war already is a matter of study by the General Land Office. Under existing Federal statutes it is the responsibility of the Office to lease portions of the public domain for use as airfields by municipalities or private individuals; consideration currently is being given to the problem of whether amendment of the laws might not be advisable to permit the leasing of public lands for landing fields and repair shops in glider operations as well as airplane flights.

MINERAL WORK RECORD

All records for the largest amount of money ever offered to the United States Government for the privilege of drilling for oil on one acre of Federal land were shattered twice in the same year by the General Land Office in leasing the public land for development of petroleum resources during the 1944 fiscal period. Both record-breaking bids were offered for land in the same area—the Elk Basin oil and gas producing field in Wyoming. In August, 1943, a bid of $5,800 smashed all previous high offers for one-acre drilling rights. Three months later, a bid of $26,216.21—nearly five times greater than the previous high mark—was made to set a new world's record for peak value per acre of government oil land.

The net result of these and other financial transactions conducted by the General Land Office in the mineral field during the year was the collection of receipts totalling $11,791,097. This constituted the second highest proceeds from mineral activities by the Government during the 24 years of operations under the Mineral Leasing Act of 1920, the peak of $13,631,840 having been reached in 1924.

Bringing about a 25 per cent increase in the amount of coal produced from the public lands during the year, the General Land Office contributed 9,061,045 short tons of fuel to keep the war factories in operation in 1944. During the same period a 10 per cent increase was made in the amount of petroleum produced from the public domain, 15 per cent in potassium salts and 18 per cent in sodium salts. Besides these direct contributions from the public domain, more than 70,800,000 acres were withdrawn for various war uses in connection with the development of strategic minerals.

BEST LAND USE STUDIED

Complex problems ranging from determining the status and disposal of 11,000,000 acres of land ceded to the United States 75 years ago by the Ute Indians of Colorado to the designation of tracts suitable for settlement by returned war veterans placed heavy burdens upon the technical branches of the General Land Office during the 1944 fiscal year. Serving as the channel for authentic information and statistical data upon which govenmental procedures and Federal legislation may be based, the Research and Analysis Division completed a Federal land inventory covering four western states, thus making available a complete set of county maps showing the location of public land tracts and the several agencies of Government which exercise jurisdiction over the areas in Nevada, New Mexico, Utah, and Wyoming.

Co-equal with the task during 1944 of assembling and interpreting data on the scope, location, and character of the public land was the responsibility of the Land Classification Division in protecting the areas from unwise or wasteful use. One of the outstanding accomplishments of the Division during the year was the classification in advance of applications for use of areas of the public lands suitable for lease by ex-soldiers and others for home, camp, health, convalescent, recreational or business purposes.

OREGON AND CALIFORNIA REVESTED LANDS ADMINISTRATION

The furnishing of forest products for war and the taking of definite steps toward permanent economic stability of the lumbering industry and communities in the post-war period was the two-fold task accomplished by the Oregon and California Revested Lands Administration, a branch of the General Land Office with headquarters in Portland, Ore. Charged with sustained-yield forestry management on 2,500,000 acres of Federal land in western Oregon, the O & C Administration made available 390,063,000 board feet of timber ranging from heavy construction and bridge material to airplane woods, and valued at $1,361,991 in 1944. Plans for the establishment of perpetual sustained yield economic units in the area were enhanced by the planting of more than 1,650,000 seedlings on denuded lands by the O & C organization.

GRAZING ON PUBLIC LANDS

More acres of public land outside Federal grazing districts than ever before were utilized under lease from the General Land Office in 1944 for the production of food, fiber, and leather for military and civilian needs. Registering an increase of more than 400,000 acres over the previous year, 12,133,905 acres of public land in continental United States and Alaska were made subject to use under 10,020 separate leases involving annual rentals of $219,863. In addition to the activities for augmenting the nation's supply of livestock products afforded by the leasing of the public lands for grazing, the operations of the Range Development Service form an integral part of the progressive permanent land administration program under the supervision of the General Land Office. Although its activities were restricted by wartime personnel and material shortages, this Service nevertheless worked on 134 projects designed to improve stock raising conditions on more than 800,000 acres.

CADASTRAL ENGINEERING SERVICE

Scientific land measurements which have been basic in the administration of the public domain since the earliest days of the Republic were carried on in 1944 as an essential part of the war. Differing from the type of survey work which involves primarily the recording of geologic, geographic, or historic features of the terrain, cadastral surveying consists of careful measurement of areas on the ground, for use in connection with administration of the public lands, and the preparation of maps scientifically compiled from field notes made by trained engineers at the time of the on-the-ground measurements. More than 1,352,800 acres of land were surveyed or resurveyed during the course of the year, with approximately 44,000,000 acres of land awaiting survey by the Service as soon as normal peacetime conditions will permit.

BRANCH OF FIELD EXAMINATION

Activities ranging from the finding of new pastures for ranchers engaged in raising livestock for the war to the subterranean tracing of depredations which 42 years ago resulted in the unlawful mining and removal of more than 200,000 tons of coal from the public domain, were carried on by the Branch of Field Examination during 1944. With lawyers, auditors, timber cruisers, range specialists, and others experienced in land investigation the Branch forms an integral factor in the post-war program.

AREA OF THE PUBLIC LANDS

The area of public lands remaining in Federal ownership, including Indian trust and tribal lands, as of June 30, 1944, amounted to about 400,000,000 acres in the public land states, and about 465,000,000 acres in Alaska. Approximately 393,000,000 acres of these public lands were vacant and unreserved, as follows: 37,000,000 acres in the states outside of Federal grazing districts; 131,000,000 acres within such districts, and 225,000,000 acres in Alaska. Of the approximately 765,000,000 acres remaining in Federal ownership in the states and Alaska, 118,000,000 acres in the states and 363,000,000 acres in Alaska were still unsurveyed as of June 30, 1944.

LEASES AND PERMITS

During the year an additional area of 594,366 acres was brought under

ACREAGE OF LANDS PATENTED WITH MINERALS RESERVED TO THE UNITED STATES

(as of June 30, 1944)

Type of Mineral Reservation	Patented During Fiscal Year 1944	Total Patented Through June 1944
Reservation of all minerals:		
Under stock raising act	38,803	33,570,958
Under other acts	116,303	2,325,572
Total	155,106	35,896,530
Reservation of specific minerals:		
Coal	15,948	10,870,531
Others[1]	11,649	1,921,360
Total	27,597	12,791,891
Grand total	182,703	48,688,421

[1] Includes coal reserved in combination with other minerals.

lease, including mineral licenses and permits, making a total of 15,913,927 acres under lease at the end of the year. The types of leases in force June 30, 1944, are shown by the following tables:

MINERAL LEASES, PERMITS, AND LICENSES OUTSTANDING[1]

(as of June 30, 1944)

Mineral	Leases		Permits		Licenses		Total	
	Number	Acres	Number	Acres	Number	Acres	Number	Acres
Coal	340	72,514	86	74,979	104	4,060	530	151,553
Oil and gas	[2]5,238	2,970,918	—	—	—	—	5,238	2,970,918
Phosphate	9	5,364	—	—	—	—	9	5,364
Potash	20	47,292	—	—	—	—	20	47,292
Sodium	4	1,874	73	109,499	—	—	77	111,373
Total	5,611	3,097,962	159	184,478	104	4,060	5,874	3,286,500

[1] Does not include permits granted to Federal war agencies.
[2] Does not include 18 leases within naval reserves (9,199 acres).

LEASES OTHER THAN MINERAL LEASES OUTSTANDING

(as of June 30, 1944)

Type of Lease	Number	Acres	Annual Rental
Aviation	43	28,936.27	$ 525.00
Fur farm (Alaska)	19	133,810.00	775.00
Grazing (Alaska)	9	1,168,953.93	1,269.35
Grazing (O & C)	192	306,302.79	7,444.13
Grazing (Taylor Act, sec. 15)	10,020	10,964,952.78	218,954.60
Recreational	22	21,049.78	[1]1,372.63
Scrugham Act	8	798.89	[2]19,605.00
Small sites (5-acre tracts)	403	1,989.96	[3]1,995.00
Water well	12	480.00	485.50
Others	3	153.01	10.00
Total	10,731	12,627,427.41	$252,436.21

[1] Does not include rental of one lease, the rental of which is based on receipts.
[2] Sale price of timber authorized to be cut.
[3] Does not include rental of 4 business site leases, the rentals of which are based on receipts.

In addition, 634,800 acres were being used at the end of the year by Federal and local agencies, private individuals, and corporations under permit by the Commissioner of the General Land Office. War agencies held temporary Departmental permits for the use of about 22,000,000 acres of public lands.

HOMESTEADS, SALES, AND OTHER ENTRIES

Further decline in the number of entries on the public lands was experienced during the year. The number of new homesteads decreased from 213 during the fiscal year of 1943 to 158 during 1944. The number of new homesteads in Alaska, however, increased from 79 to 94.

The following tables show the new entries and selections allowed, the entries finally approved, and the patents and certifications issued during the year. At the end of the year, 4,302 entries embracing 663,796 acres were pending awaiting further compliance with the public land loans by entrymen or final action by the General Land Office.

ORIGINAL ENTRIES AND SELECTIONS[1]

(fiscal year 1944)

Type of Entry or Selection	Public Lands		Ceded Indian Lands		Total	
	Number	Acres	Number	Acres	Number	Acres
Homestead entries:						
Stock raising	5	2,320.00	—	—	5	2,320.00
Enlarged	3	785.74	—	—	3	785.74
Reclamation	12	1,336.53	1	180.00	13	1,516.53
Forest	4	306.52	—	—	4	306.52
Sec. 2289 R. S., et al	133	14,939.01	—	—	133	14,939.01
Total homestead entries	157	19,687.80	1	180.00	158	19,867.80
Other entries and selections:						
Desert land entries	30	4,246.05	—	—	30	4,246.05
State selections	109	58,359.02	—	—	109	58,359.02
Timber and stone applications	3	99.78	—	—	3	99.78
Mineral applications and adverse claims	69	7,964.78	—	—	69	7,964.78
Town lots[2]	24	(3)	—	—	24	(3)
Other	3	42.82	—	—	3	42.82
Total other entries	238	70,712.45	—	—	238	70,712.45
Grand total	395	90,400.25	1	180.00	396	90,580.25

[1] An original entry or selection is one made in pursuance of an act of the Congress which prescribes the terms and conditions under which patent may be issued or other evidence of title granted. An original entry becomes a final entry upon compliance by the entryman with further requirements of the law, such as residence or additional payment, and upon the issuance of a final certificate. A state selection becomes final upon certification by the Commissioner of the General Land Office.

[2] Town lots upon which only part payment was made.

[3] Area not tabulated.

LAND GRANTS

Title to 102,185 acres was conveyed during the year in satisfaction of grants of land made to the states and railroads by the Congress for public purposes. Grants to states included 75,180 acres of park selections, 17,426 acres of indemnity school land selections, 2,662 acres selected for miners' hospitals, and 1,740 acres of swamp land. The Northern Pacific Railroad received 5,177 acres patented to it pursuant to the Transportation Act of 1940. In addition to these grants, 25 patents were issued to states to give them additional evidence of title to 569,575 acres of previously granted school sections.

A total of 249 applications for rights-of-way were approved during the year under laws which provided for the granting of rights-of-way over the public lands for telegraph and telephone lines, public roads, pipelines and other purposes. Of the applications approved, 81 involved permits or easements calling for an annual rental of $2,520 and 33 were temporary rights-of-way over the "O and C" lands with an annual rental of $340.

FINAL ENTRIES[1]

(fiscal year 1944)

Type of Entry	Public Lands		Ceded Indian Lands		Total	
	Number	Acres	Number	Acres	Number	Acres
Homestead entries:						
Stock raising	56	26,685.35	1	400.00	57	27,085.35
Enlarged	5	1,096.03	—	—	5	1,096.03
Reclamation	139	15,640.81	9	972.49	148	16,613.30
Forest	3	135.31	—	—	3	135.31
Commuted	1	141.58	16	1,178.78	17	1,320.36
Sec. 2289 R. S., et al	80	6,948.43	8	520.00	88	7,468.43
Total homestead entries	284	50,647.51	34	3,071.27	318	53,718.78
Other entries:						
Desert land entries	22	2,731.38	—	—	22	2,731.38
Public auction sales[2]	135	11,031.17	—	—	135	11,031.17
Timber and stone entries	3	99.78	—	—	3	99.78
Mineral entries	98	7,881.68	—	—	98	7,881.68
Town lots	207	(3)	48	(3)	255	(3)
Miscellaneous cash entries	54	8,962.06	—	—	54	8,962.06
Other	7	430.40	—	—	7	430.40
Total other entries	526	31,136.47	48	—	574	31,136.47
Grand total	810	81,783.98	82	3,071.27	892	84,855.25

[1] A final entry is one upon which final certificate has been issued showing that the law has been complied with and that in the absence of irregularity, the entryman or claimant is entitled to a patent. If the requirement of the law has been met, the equitable title to the land passes to the claimant upon the issuance of the final certificate.

[2] Isolated tracts.

[3] Area not tabulated.

LAND EXCHANGES

Exchanges of land with private parties and local governments during the year resulted in the addition of 144,904 acres to grazing districts in exchange for 153,314 acres of Federal land; 13,553 acres to Indian reservations in exchange for 18,063 acres; 2,219 acres to the "O and C" lands in exchange for 840 acres; and 361,778 acres to national forests in exchange for 23,381 acres of land and sufficient timber to equalize the values involved.

RECEIPTS AND EXPENDITURES

Receipts from all sources during the year totaled $14,355,342, the highest since 1924, and an increase over the previous year of 4,597,000. Mineral rentals, royalties, and bonuses accounted for 82 per cent of the total receipts and sales of timber from the

PATENTS AND CERTIFICATIONS[1]

(fiscal year 1944)

Type of Patent	Public Lands		Ceded Indian Lands		Total	
	Number	Acres	Number	Acres	Number	Acres
Homestead patents:						
Stock raising	75	38,803.29	—	—	75	38,803.29
Enlarged	9	1,503.36	2	200.00	11	1,703.36
Reclamation	159	16,023.11	—	—	159	16,023.11
Forest	4	109.76	—	—	4	109.76
Commuted	—	—	1	40.00	1	40.00
Sec. 2289 R. S., et al	96	8,437.34	1	160.00	97	8,579.34
Total homestead patents	343	64,876.86	4	400.00	347	65,276.86
Other patents:						
Desert land	26	3,637.65	—	—	26	3,637.65
Public auction[2]	132	10,808.07	—	—	132	10,808.07
Timber and stone	3	240.00	—	—	3	240.00
Mineral	100	7,487.05	—	—	100	7,487.05
Indian	—	—	128	[3]6,649.51	128	6,649.51
Miscellaneous cash sales	448	9,265.75	—	—	448	9,265.75
Exchange	125	195,597.80	—	—	125	195,597.80
State grants	31	76,919.73	—	—	31	76,919.73
Curative and supplemental	191	(4)	—	—	191	(4)
Other	86	5,753.95	—	—	86	5,753.95
Total other patents	1,142	309,710.00	128	6,649.51	1,270	316,359.51
Total all patents	1,485	374,586.86	132	7,049.51	1,617	381,636.37
Certified to states	—	20,087.88	—	—	—	20,087.88
Grand total	1,485	394,674.74	132	7,049.51	1,617	401,724.25

[1] Where upon final examination it is found that an entry or selection is in proper form and that the law has been complied with, a patent conveying the legal title to the claimant is issued. In the case of certain state selections, the legal title is conveyed upon approval thereof by the Secretary of the Interior and certification by the Commissioner of the General Land Office.

[2] Isolated tracts.

[3] Indian tribal lands.

[4] Acreage not counted because previously reported.

"O and C", and Coos Bay lands for an additional 13 per cent. The remaining 5 per cent was realized from fees and commissions, sales of public and ceded Indian lands, rentals, fines and penalties, copying fees, and from miscellaneous sources.

Of the total receipts, 37 per cent will be distributed to various states and counties and 43 per cent will be credited to the Reclamation Fund. Except for $13,098, which will be credited to Indian trust funds, and $50,617 which will be credited to the Range Improvement Fund, the remainder will be covered into the General Fund of the Treasury.

Expenditures from appropriations amounted to $2,321,664 distributed as follows: General $857,495; surveys, $560,766; field examination, $331,461; administration of the revested and reconveyed lands, $257,966; district land offices, $250,727; range improvements, $32,986; and fire control in Alaska, $30,263. Expenditures, aggregating $286,374, were made from funds transferred to the General Land Office for the emergency protection of certain public lands and for soil and moisture conservation operations.

The following table shows the receipts earned during the year, by sources and by Treasury accounts:

DISPOSITION OF RECEIPTS OF THE GENERAL LAND OFFICE[1]

(fiscal year 1944)

Source of Receipts	Covered in the Treasury Earmarked For—				
	General Fund	Reclamation Fund	States and Counties	Indian Trust Funds	Total
Sales of public lands	$25,095.57	[2]$80,000.00	[2]$2,000.00	—	$107,095.57
Fees and commissions	10,264.76	[2]40,000.00	—	—	50,264.76
Mineral leases and permits:					
Mineral Leasing Act	1,091,397.48	5,729,836.78	4,092,740.56	—	10,913,974.82
Red River oil and gas lands	—	—	3,582.93	$5,971.54	9,554.47
Potash	58,788.08	[3]358,754.91	220,455.30	—	637,998.29
Other	[4]229,570.31	—	—	—	229,570.31
Total mineral	1,379,755.87	6,088,591.69	4,316,778.79	5,971.54	11,791,097.89
Oregon and California grant lands	885,112.83	—	885,112.82	—	1,770,225.65
Coos Bay grant lands	4,969.21	—	[2]20,000.00	—	24,969.21
Taylor Act grazing leases	50,616.58	[5]50,616.58	101,233.17	—	202,466.33
Rights-of-way leases	30,408.75	—	—	—	30,408.75
Sales of Reclamation town lots	—	[6]13,608.65	—	—	13,608.65
Sales and lease of Indian lands	—	—	—	7,126.23	7,126.23
Copying fees	17,343.36	—	—	—	17,343.36
Miscellaneous	340,735.33	—	—	—	340,735.33
Grand total	2,744,302.26	6,272,816.92	5,325,124.78	13,097.77	14,355,341.73

[1] Before final settlement of all accounts by the General Accounting Office.

[2] Estimated.

[3] Includes $50,117.50 collected in California under act of Oct. 2, 1917 (40 Stat. 297).

[4] Includes $20,257.66 collected in Wyoming under act of June 26, 1926 (44 Stat. 1621), $193,195.80 collected in California under Executive Order No. 9087 dated March 5, 1942, and $16,116.85 collected in Alaska, of which $260.00 were collected under the Mineral Leasing Act of 1920.

[5] Range improvement fund.

[6] Includes $1,250.00 from sales of reserved reclamation lands.

PUBLIC UTILITIES

By H. M. Olmsted
Public Utility Engineer-Accountant

GENERAL

Demand on public utility services remained high during the third year of war, despite a slackening in some lines of war industry. Capacity for electrical generation, gas production, water supply, communication and local transportation continued to be intensively used, by and large, with severe restrictions on expansion or replacement where not considered essential. The vitally important work of the utilities in meeting wartime requirements was ably performed by privately and publicly owned agencies alike.

ELECTRIC LIGHT AND POWER

After showing a generally upward trend throughout 1941, 1942, and 1943, the curve of electrical output, as prepared by the Edison Electric Institute, began to drop sharply after the first week of 1944, but stayed above 1943 until October, when the weekly output figures started to fall somewhat below the corresponding periods a year before. Nevertheless, December, 1944, ran about as high as January, 1944 and December, 1943; in fact the output in the week ended Dec. 23, 1944, was the highest in history; it was 4,616,975,000 kilowatt-hours, as compared with the previous record, 4,612,994,000 kwh in the week ended Dec. 18, 1943.

Preliminary estimates by the EEI appearing at the close of the year gave $2,925,000,000 as the 1944 gross revenue of the electric light and power industry, a gain of about $110,000,000 over 1943. Consolidated net income after taxes, however, was estimated at about $500,000,000, a decline of $12,000,000 from 1943. Electrical output from all sources contributing to the public supply was placed at about 230,000,000,000 kilowatt-hours, a four per cent increase over 1943; about 80 per cent of the total was said to come from private companies and the remainder from Federal and other public projects. Electrical capacity was stated to have increased 1,500,000 kilowatts in 1944 to a total of 50,500,000 kw.

FEDERAL POWER COMMISSION

The Federal Power Commission, having jurisdiction over interstate electric and natural gas utilities, won several important court decisions in 1944. On Jan. 3 the United States Supreme Court announced a 5-to-3 decision in favor of the FPC and against the Hope Natural Gas Company, a Standard Oil Company subsidiary that sells West Virginia gas to certain companies in Ohio and Pennsylvania. The Court for the first time spoke out against the delusive concept of "value" in public-utility rate-making, stating: "The heart of the matter is that rates can not be made to depend upon 'fair value' when the value of the going enterprise depends on earnings under whatever rates may be anticipated." The FPC had used as a rate base the "actual legitimate cost" of the company's interstate property, less depreciation and depletion, plus working capital, certain unoperated gas acreage, and an allowance for future net capital additions. A large rate reduction was ordered, and the Court decided that the result was reasonable, over-ruling a lower court which had held that the evidence on reproduction cost should have been given weight.

In November the Court, in effect, went further than the Hope decision, when it refused to review the alleged error of the FPC in not even admitting in evidence a reproduction-cost appraisal presented by the Panhandle Eastern Pipeline Company. Another case, involving elimination of write-ups, was won early in the year when the Supreme Court upheld an FPC order requiring the Northwestern Electric Company (of Washington and Oregon) to amortize a capital write-up of $3,500,000, in the property and common stock accounts, by annual charges against net income remaining after payment of preferred dividends. By these court decisions the FPC and other commissions were strengthened in their work of regulating public utility rates and accounting.

In October the FPC issued a six-year financial report on the electric utility industry, covering 98 per cent of all privately owned electric utilities, for the years 1937-43. In that period kilowatt-hour sales increased 75 per cent, electric revenues 38 per cent, and number of customers 15 per cent. Generating capacity increased 22 per cent, but plant investment went up only 7 per cent, to $14,844,000,000 at Dec. 31, 1943. During the period some $400,000,000 of inflation was written out of plant accounts (three-fourths of which, according to the FPC, being covered by its orders); and after the deduction of greatly increased depreciation reserves the net investment, or book value, actually declined. Outstanding indebtedness decreased; interest charges were covered 3.36 times in 1943, as against 2.97 times in 1937; and published averages of annual yield on bonds, based on market prices of selected utilities, declined to 2.99 per cent in 1943, from 4.03 in 1937.

Reappointment of Leland Olds, whose term as FPC commissioner expired in 1944, was confirmed in the Senate by voice vote in September, after considerable delay and some opposition by certain state commissions and senators. Mr. Olds' term as chairman having expired, Commissioner Basil Manly was chosen as FPC head.

In April Chairman Olds declared that the electric power industry should set a goal of 200,000,000,000 to 220,000,000,000 kilowatt-hours production by the end of the first post-war year, and 270.000,000,000 by the end of the fifth year; and in October the commercial planning committee of the EEI predicted that there would be no great amount of idle capacity in the postwar period, that sales of electricity to domestic consumers by 1950 would be about 50 per cent higher, on a countrywide average, than in the peak year of 1943, and that by then a marked expansion in industrial power sales would be resumed.

RURAL ELECTRIFICATION ADMINISTRATION

In November a five-year program of rural electrification, prepared by the post-war committee of the Rural Electrification Administration, was announced by the Department of Agriculture. It contemplated bringing electricity to 3,655,000 rural dwellings, which would leave 1,737,000 still unserved. The cost of the program was estimated at $1,042,000,000, based upon pre-war REA costs. Emphasis was placed on publicly financed construction and service by means of cooperatives. Some 952,000 other rural dwellings without electricity at present were said to be in suburban areas where they can be served by urban power systems.

Congressional investigation of the REA continued in 1944. Its relations to the National Rural Electric Cooperative Association were examined; and consideration was given to making the REA independent of the Department of Agriculture. In December, Harry Slattery, Administrator of the REA, resigned, claiming that his authority had been transferred, in effect, by the Secretary of Agriculture to W. J. Neal, deputy administrator.

SECURITIES AND EXCHANGE COMMISSION

In its continued administration of the Holding Company Act, the Securities and Exchange Commission reported that, by the end of June, 1944, 266 separate companies with assets of more than $3,750,000,000 had been divested from holding companies, by sale of their stock to other companies or to municipalities, or distribution of common stock to holders of preferred stock or to common stockholders of parent companies, or by exchanges between systems, or by other methods. Great progress has also been made in simplification of corporate organization and financial structure. By June 30, 1944, the SEC had passed upon the issuance of more than $6,000,000,000 of securities of registered holding companies and their subsidiaries, mostly for refunding at lower interest rates, and in connection with this activity improvements in financial structure and policies have been attained, including elimination of write-ups from plant accounts.

Another activity has been the restriction of so-called service companies in holding-company systems, to eliminate profit-extracting features of such companies and to limit them to such engineering and other services as the operating companies can not perform economically for themselves.

Chairman Ganson Purcell announced in December that the end of the job of integration of holding-company systems, formal proceedings for which were first instituted in 1940, was in sight, and that as a result the operating companies, released from remote holding-company control, can be more responsive to the needs of the communities served, will have greater ability to raise equity capital on a sound basis, and will not have their decisions on construction and maintenance programs hampered by overburdened capital structures.

Bond issues of public utilities in 1944 totaled $968,038,000, in 34 issues, according to *The New York Times* summary on Jan. 1, 1945. This was stated to be the largest such total since 1936. Equity financing of utilities in 1944 was given as $102,608,000, in 18 stock issues.

GAS

At the close of 1944 the American Gas Association announced that the gas industry at that time had some 19,775,000 customers, the largest number ever served by it. The total revenues for 1944 were given as approximately $1,130,366,000, divided as $682,738,000 for natural gas companies and $447,628,000 for manufactured and mixed gas companies. These revenues were said to represent an increase of 5.7 per cent over 1943 for the entire industry—6.1 per cent increase for natural gas and 5.1 per cent for manufactured and mixed gas. The Association stressed the 1944 activities of the industry in domestic gas research for the future development of appliances to meet the modern demands of consumers.

The Federal Power Commission, which devoted a large part of its energies in 1944, as usual, to interstate natural gas regulation, is planning a thorough investigation of the utilization and conservation of natural gas, to begin early in 1945.

TELEPHONE AND TELEGRAPH

Interstate long-distance ("toll") rates of the Bell telephone system were reduced $8,035,700, on an annual revenue basis, in 1944 (chiefly in the form of an advance of the night discount period from 7 p.m. to 6 p.m.), following reductions of more than $34,000,000 in 1943 resulting from a toll rate investigation of the parent company (American Telephone & Telegraph Company) by the Federal Communications Commission, according to the special committee of the National Association of Railroad and Utilities Commissioners cooperating with the FCC in studies of telephone regulatory problems. The toll rate investigation also resulted in revisions of the contractual commission and prorate arrangements between the A. T. & T. Co. and the subsidiary and independent companies. These revisions were estimated to benefit the revenues of subsidiaries by more than $14,000,000 in a year, and the revenues of independent connecting companies by about $2,000,000. Since these revisions, there have been reductions in intrastate toll rates of subsidiary companies totaling $12,610,000 in annual revenue—$4,015,000 in 1943 and $8,595,000 in 1944.

The NARUC special committee, which had worked on the problem of separation of toll and local costs and revenues, commenced a study in 1944 of the license contracts between the A.T. & T. Co. and its subsidiaries, including the revenues and expenses related to the contracts.

The Congressional investigation of the FCC, more particularly as to radio matters, continued in 1944.

James Lawrence Fly resigned as FCC chairman late in the year and Commissioner Jett was made acting chairman. Paul A. Porter was appointed as a new commissioner.

In December Senator Lister Hill of Alabama introduced a bill to establish a Rural Telephone Administration with power to lend $100,000,000, with preference to municipalities, cooperatives, mutual telephone companies, and small existing private telephone companies, for the purpose of extending rural telephone service. The FCC reported that, while rural electrification was expanding, telephones on farms declined from 2,498,493 in 1920 to 2,139,194 in 1930 and only 1,526,954 in 1940. The bill is expected to be re-introduced in the Senate in 1945. A joint committee of the Bell system and the United States Independent Telephone Association is studying the problem of rural telephone service.

OFFICE OF PRICE ADMINISTRATION

The public utilities division of the Office of Price Administration continued its efforts, despite severely restricted powers, to prevent or minimize rate increases and to assist in certain rate reduction proceedings. It suffered reverses in the United States Supreme Court in two instances. On March 27 by a 6-to-3 decision the Court sustained an order of the Public

Utilities Commission of the District of Columbia increasing rates of the Washington Gas Light Company, against the opposition of the OPA. On May 29 the Interstate Commerce Commission was similarly upheld (with one dissent) in an increase of fares of the Hudson & Manhattan Railroad Company on its tunnel trains between Jersey City and New York.

Under the direction of Harry R. Booth, its chief, the public utilities division took part in many rate increase cases before various commissions and courts, and also in some rate decrease matters, such as the Detroit Edison Company case, referred to hereafter; income and excess profits taxes, and rate of return, were points especially stressed by the division's attorneys and experts.

OTHER REGULATORY ACTIVITIES

The state public utility commissions, with widely varying viewpoints and facilities, carried on along many of the lines heretofore referred to in connection with Federal regulatory agencies. Lack of space forbids anything approaching a summary of their accomplishments.

The committee on depreciation, of the National Association of Railroad and Utilities Commissioners, continued its activities, following presentation of its extensive report at the Association's 1943 convention. It conducted conferences with representatives of utility trade associations and of state commissions not represented on the committee; and it received and considered comments of professional engineering and accounting spokesmen. At the 1944 convention, in November, a supplementary report clarified its position in support of straight-line age-life depreciation methods for determining both annual and total depreciation, and sought to dispel fears of industry representatives and their allies in professional groups that the utility companies will be injured by such a depreciation policy, particulary in its application to correction of past deficiencies in depreciation provisions. While the convention did not specifically recommend the committee's conclusions to the various commissions, it provided that the committee's reports be distributed to the commissions for their consideration and application, subject to modifications as might be called for in various jurisdictions; and extended the confidence, appreciation, and gratitude of the Association to the committee members.

Despite the continued opposition of some companies and consulting engineers to the accumulation of depreciation reserves on a basis of estimated life of property or other measures of productive capacity, and the reluctance of some commissions to commit themselves to such specific principles, the depreciation reserves of utility companies as a whole have shown a large increase, with the spread of straight-line depreciation accounting. In the six-year period, 1937-43, the depreciation reserves of electric utility companies increased by more than $1,000,000,000, or over 70 per cent, according to the FPC report. Consistency in rate-making between annual depreciation allowances and rate-base deductions for depreciation is recognized in United States Supreme Court decisions and by the highest courts of various states.

RELATION OF FEDERAL TAXES TO UTILITY RATES

The relation of high Federal taxes on public utility net incomes to utility rates and possible rate reductions attained increased prominence in 1944. The so-called excess profits tax continued to be especially scrutinized. Utility companies subject to this tax contended that it does not necessarily indicate excessive profits, and that as it must be paid it should be allowed as an operating expense in judging whether utility rates are fair. It was pointed out by others that the tax is not levied unless the utility has a net income in excess either of past earnings or of a certain relation to capital.

Two events in particular have stimulated discussion and action as to this question. In May the Michigan Supreme Court decided in the Detroit Edison case, brought by the city of

Detroit; that the state Public Service Commission is not required to treat excess profits taxes as allowable operating expense, but must consider whether they are avoidable expenses. The city had unsuccessfully sought a 25 per cent rate reduction before the Commission, claiming the company would lose only a small part of the reduction, because of savings in excess profits taxes. After the court decision the Commission ordered a reduction of about 11½ per cent, leaving the company a return, after taxes, of 4.68 per cent on the rate base, or enough to pay bond interest and a dividend of more than 6½ per cent on the common stock. In June, Henry Morgenthau, Jr., Secretary of the Treasury, announced that, despite the loss of excess profits taxes, if utility rates are reduced, the Treasury would not oppose such reductions.

Since then the California Railroad Commission and the Kentucky Public Service Commission, as well as the Michigan Commission, have instituted statewide investigations of the amounts of excess profits taxes of utilities and the potentialities of rate reductions for reducing or eliminating such taxes. The resultant rate of return represented by the utility's remaining income is also to be considered.

Local transportation companies continued to show large profits in many cities, although a trend toward lighter patronage was evident with relaxation of restrictions on use of private automobiles. Some efforts to reduce fares were made; the New York Public Service Commission instituted a comprehensive program of reductions in that state, through negotiations or formal proceedings, where excessive profits were indicated.

LABOR RELATIONS

Although the manpower situation in the utility field continued to have serious aspects, managements and men were generally able to work together in meeting the strain of wartime demands. Many women were employed to fill jobs formerly considered almost exclusively male, such as running street cars.

A few serious strikes occurred, one of the most disruptive being an unauthorized walkout of employees of the Philadelphia Transportation Company, which operates street-cars, buses, elevated and subway trains. The strike, which crippled the system for six days at the beginning of August, was asserted to be in protest against employment of Negroes as prospective operators, and was reported to involve 6,000 strikers. One of the leaders had been the head of the Philadelphia Rapid Transit Employees Union, former bargaining agent for the workers; the present bargaining agent is the Transport Workers Union (CIO), officials of which opposed the strike. The walkout came to an end when the Army took control, with more than 5,000 soldiers, a Federal grand jury investigation was ordered, and several strike leaders were arrested, charged with violation of the Smith Connally anti-strike law.

The chief labor difficulty in the electric field was in Los Angeles in February, when about 2,500 employees of the municipal Water and Power Commission, who were organized in an AFL union, struck for higher wages. The National War Labor Board stated it had no jurisdiction. President Green of the AFL denounced the strike. Although it did not immediately shut down the power plants, many war industries were severely affected when breakdowns occurred, augmented by an unusually disastrous storm. At the Mayor's suggestion the Army took over and the strikers returned, having been out nine days.

Telephone operators became restive at times. A strike in Dayton, O., in November, over what was claimed to be unduly preferential treatment of supplementary operators brought from other localities, spread to other cities but ended after five days at the demand of the W.L.B. At the year end a strike threat was pending in New York City over a long-drawn-out wage dispute.

Strikes involved a very small part of public utility labor, which for the most part cooperated in the war effort along with the rest of the population.

PUBLIC OWNERSHIP

Boulder and Grand Coulee Dams.—A gradual expansion of the scope and capacity of Federal water-power systems occurred during the year, and there were some new municipal acquisitions of utilities. Boulder Dam, on the Colorado River, and Grand Coulee, on the Columbia, vied for preeminence. In October a twelfth 82,500-kilowatt generating unit was placed in operation at the Boulder Dam power plant, bringing the installed capacity to 1,034,800 kilowatts. Boulder claims to be the largest power plant in the world, but Grand Coulee plans to outstrip it with projected capacity of 1,800,000 kw. More than 50 per cent of all electric energy consumed during 1944 in the five northwest states of Oregon, Washington, Idaho, Montana and Utah was delivered by the Bonneville Power Administration from the two government-owned plants at Bonneville and Grand Coulee Dams, having a rated capacity of 1,316,000 kilowatts. A record peak load of 1,400,000 kw. was supplied on December 30, 1944. During the year the two plants supplied some 6,218 million kilowatt-hours to Pacific Northwest war plants and military establishments, 1,932 million to private utilities and 822 million to publicly owned utilities.

Growth of Power Development.—The re-election of President Roosevelt in November was taken to indicate continued growth of public power development, with pressure for extension of the TVA idea to other river basins, the achievement of the St. Lawrence seaway and power project, increased rural electrification with Federal assistance, and the incorporation of government-owned power facilities installed for war purposes into existing public power systems to a large extent.

Missouri River Basin.—On Dec. 22 President Roosevelt signed a billion-dollar flood-control bill which included authorization of a $400,000,000 multiple-purpose project for the Missouri River basin, the construction to be carried on by the Army Engineers and the Bureau of Reclamation. He declared that his approval was given with the distinct understanding that it would not jeopardize the creation of a Missouri Valley Authority (similar to the Tennessee Valley Authority), which he said should receive the early consideration of the next Congress. The projects covered by the bill were primarily for post-war construction. An amendment giving the Secretary of the Interior jurisdiction over marketing of electricity generated at the dams covered by the bill, with preference to public bodies and cooperatives, and also giving him authority to construct the necessary transmission lines, was adopted.

St. Lawrence Seaway.—An attempt to include $285,000,000 for the St. Lawrence River seaway and power project in the Rivers and Harbors Bill was defeated in the Senate, 56 to 25, in December.

Private Utilities.—Speakers at the annual convention of the Edison Electric Institute, in June, emphasized competitive aspects of the electric utilities. Kinsey M. Robinson, president of the Washington Water Power Co., said: "Private utilities probably will experience continued pressure to reduce rates and to meet the competition of other forms and sources of power. To meet this situation, we must continue to operate on the most efficient basis possible. The industry must not lose sight of the fact that, despite the much publicized program of hydro expansion by the Federal Government during the past few years, the private utilities have installed twice as much generating equipment as the Federal agencies, so that a large portion of the surplus power that will be available after the war will be our own."

The Tennessee Valley Authority, already the second largest power-producing system in the United States under the impact of war needs (75 per cent of its total production in 1943 being reported as going to war uses), continued to expand its facilities and production. It survived an attack by

Senator McKellar of Tennessee, who sought to abolish the revolving-fund arrangement under which the TVA operates, and to require it to turn over all of its receipts to the U. S. Treasury and get a new appropriation from Congress each year. The move was defeated in the House of Representatives on June 1 by a vote of 138 to 24,—the majority including five Tennessee congressmen.

Street Railways Purchase by San Francisco, and Memphis.—Dual operation of street railways in San Francisco was discountenanced by the voters in May, when they adopted a charter amendment providing for the city's purchase of the Market Street Railway Company's operating property for $7,500,000, of which $2,000,000 was to come from the Municipal Railway surplus and the remainder from borrowings to be repaid out of revenues. Universal transfers are specified, with a 7-cent fare (raised from 5 cents) until the loan is paid. The City of Memphis, Tennessee, is acquiring the local transportation system from the Memphis Street Railway Company.

Chicago has continued its efforts for unification of transit facilities, and the City Council in August approved a proposal for municipal purchase of the surface and elevated lines, subject to a referendum. Early consummation of such a plan appeared doubtful, however.

Sale of Nebraska Power Co.—A step toward public ownership of the Nebraska Power Co. occurred in December, when its parent, the American Power & Light Co., announced that arrangements had been concluded for the sale of the Nebraska Company to a non-profit corporation organized by citizens of Omaha. This group asserted that the ultimate acquisition of the property by public-ownership bodies in Nebraska was intended; but the Omaha City Council proceeded, nevertheless, to take steps toward condemnation of the Nebraska Power Co. property. All other electric utilities in the state are reported to be owned and operated by municipalities or by power districts created by the state.

Louisville.—Various municipal acquisitions of isolated properties required by the SEC to be disassociated from holding-company systems took place or were actively contemplated. One of the largest of such proposals was the projected purchase of Louisville, Ky., properties of the Standard Gas & Electric Co. by that city.

Twentieth Century Fund Survey.—In February the Twentieth Century Fund released results of a survey of publicly and privately owned electric utilities, which had been directed by Dr. Arthur B. Burns. No pronounced difference in efficiency between the two types of operation was found; both rates and costs of municipal and private systems, except in small communities, were said to compare favorably. Better arrangements for interchanging power between public and private systems were urged, if the best use is to be made of the power resources of large areas. The report stated: "This is part of the larger problem of regional coordination which may well eventually call for some form of public integration for the whole country."

CONCLUSION

The utilities appear to have ended the year in the strongest financial position they have had, as a whole, largely owing to elimination of much excess capitalization, reduction of debt, low interest rates, strengthening of depreciation reserves, excellent wartime revenues, and prospects of good business in the future—not as great, industrially, as in the peak of wartime production, but generally promising, particularly in the residential market in the case of electric and gas utilities.

WATER SUPPLY

By E. Sherman Chase
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GENERAL

The year 1944 was not notable for important developments in the field of water supply. The continuation of the war and the restrictions on use of materials and labor precluded any substantial construction of water supply works. Furthermore, the preoccupation of technical and scientific personnel with activities connected with the war effort inhibited, to an appreciable degree, research in the water supply field except as such research might be related to military needs. Nevertheless, here and there some water works construction of interest took place and a moderate amount of research findings in the water supply field was published. Much emphasis was placed upon preparation for the post-war period by the promotion of the "Blue Print Now" program.

NEW CONSTRUCTION AND PROCESSES

One of the few examples of new construction in the water works field in 1944 was the completion at Mobile, Ala. of a 20 m.g.d. filtration plant, 500,000 feet of cast iron mains, seven miles of 24-inch supply main, and a new 10 m.g. raw water reservoir. This construction was required to meet the wartime increase in population from 115,000 to 250,000 and the doubling of the water consumption. This example is illustrative of the instances where wartime increases in demands have necessitated water works construction.

Cleaning and cement lining of old water mains in place by the Tate process has been carried out at a number of water works during recent years. At West Palm Beach it was found that the total cost of carrying out this work, including overhead and engineering, ranged from 39.7 to 45 per cent of the book cost of the mains involved. Such cleaning and lining has restored carrying capacity of old mains and avoided the laying of new ones to meet wartime needs.

THE FIRE HYDRANT

A valuable contribution to the historical aspects of water works engineering was made by L. A. Jackson, manager of the Little Rock Municipal Water Works in a paper upon the development of the fire hydrant. Although methods to combat fire have been practiced for centuries the fire hydrant has been developed in the past 150 years. The author states "the fire hydrant of 1944 is a far cry from the 'plug-pulling' days and the water hole in the street, but in general pattern is not so distant from the post-type hydrant introduced in Philadelphia early in the nineteenth century." The original paper should be read by all interested in the historical development of water works practice.

WATER PIPES GROUNDING CONTROVERSY

A matter of long-standing controversy between water works executives and electric and communications utilities has been the subject of a progress report submitted by a joint committee early in the year. This particular report dealt with the matter of possible harmful effects from grounding electrical distribution circuits on water pipes. The report set forth 12 findings, which briefly summarized were as follows: (1) grounding of electric circuits is necessary for safety reasons; (2) grounding to metallic water pipes provides the highest degree of safety; (3) the water pipes are of necessity in parallel with the grounded conductor of the electric system; (4) the removal of alternating current from water pipes is difficult to accomplish in many cases; (5) under normal conditions the voltage which produces current over the grounding conductor and water pipes is three to four volts;

(6) there is no conclusive evidence that alternating currents of the magnitude measured have any appreciable detrimental effect on the pipes or the water in the pipes; (7) the galvanic couples in most piping systems may produce currents in the water which are much greater than those produced by currents along the pipes; (8) "blue water" troubles have been found to be due mainly to the action of untreated aggressive well waters on copper tubing; (9) leaky joints in yellow brass systems because of poor workmanship gives rise to some dezincification; (10) without grounding there may be a hazard owing to electric shock, ignition of gas and sparking (this grounding should be made on the street side of the meter or a bonding jumper should be provided); (11) in about 10 per cent of the cases investigated grounding was found to be defective; (12) more satisfactory methods and devices for grounding than are now available should be developed.

The Board of Directors of the American Water Works Association following the presentation of this report issued a statement on behalf of the water supply industry to the effect that: (1) the Association would continue cooperation in the interest of safety to the public; (2) the Association noted the claim relative to the safety value of grounding but also noted the fact that water utilities tolerated such grounding in spite of its installation by others and the possibility of damage thereby; further, grounding through automatic safety switching has been widely used in other countries; (3) the Association maintained its general objection to grounding and the use of water pipes as an essential current-carrying part of an electrical system, although not objecting to brief and infrequent current interchanges when ground connections are fulfilling protective purposes; (4) the Association decried the indifference of agencies interested in grounding in the maintenance of its efficiency; (5) water purveyors assumed no obligation whatsoever with respect to water pipe ground connections; (6) water purveyors reserved the right to use non-metallic piping or jointing materials without primary regard to their effect on grounding problems.

The results of a research project on the effects of electric grounding on water pipes, reported by Eliassen and Goldsmith (*Jour. A.W.W.A.*, vol. 36, p. 563, May 1944) indicated that under the conditions of the study, grounding with an alternating or direct current of 1.25 amperes, superimposed on ¾ in. red brass, copper, galvanized iron or lead pipes had no appreciable effect on the quality of the water passing through the pipes.

DIATOMITE FILTRATION

The failure of sand filters at high rates to remove cysts of Endameba histolytica led to the development of diatomite (diatomaceous earth) filtration equipment by the Engineer Board. A diatomite filter consists essentially of a steel shell containing cylindrical elements of porous refractory materials and helically wound wire. In operation a pre-coat of diatomite is deposited by circulating slurry through the filter. After the pre-coat is deposited and a clear effluent obtained, the filter is ready for use. The filter is cleaned by backwashing which removes accumulated dirt and the filter cake. It was found advantageous to apply diatomite to the incoming water during the filtering cycle. Two sizes of field filters have been developed, one of 3.6 sq. ft. filter area and 15 g.p.m. capacity, weighing about 50 lb. and the other of 10 sq. ft. filter area and 50 g.p.m. capacity weighing about 350 lb. The pump and engine is a separate unit, weighing 60 lb. for the smaller filter and 167 lb. for the larger.

SALT WATER PURIFICATION SERVICE KIT

Another development in the military field disclosed during the year, was a small kit for the purification of small quantities of sea water for drinking purposes for shipwrecked sailors and aviators forced to land upon the sea. This kit consists of a plastic bag and filter and sufficient exchange chemicals to react with the salts in about five or six pints of the sea water to be rendered drinkable. The whole kit is packed in small compass.

CHLORINE

As compared with chlorine, McCarthy of the Lawrence Experiment Station, Massachusetts Department of Public Health, found that neither bromine or chlorine dioxide is as effective as chlorine as a bactericide, but that either could be used as such. Both agents were found to be more affected by the organic matter in the water than is chlorine, but neither agent has nearly as much residual effect as chlorine.

Other authors (John F. Synan, J. D. Macmahon and G. P. Vincent: *Jour. N.E.W.W.A.*, Vol. 58, p. 264, Sept. 1944) describe a method of generating chlorine dioxide in the treatment of water supplies by feeding a solution of sodium chlorite into the discharge line of a conventional chlorinator and passing the mixture through a mixing chamber to complete the reaction. Experience with the water supply of Niagara Falls derived from the polluted Niagara River after filtration demonstrated that pretreatment with chlorine to disinfect it followed by final treatment with chlorine dioxide, destroyed tastes and odors due to phenols and algae.

A study by Shih Lu Change, Research Fellow at the Harvard Graduate School of Engineering, on the mechanism of destruction of cysts of E. histolytica by chlorine and chlorine compounds in water, showed that when cysts were exposed to solutions of gaseous chlorine, HTH, dichloramine, monochloramine, Halozone, and succininchlorimide there was penetration of chlorine into the cysts. The cyst-penetrating power of these chlorinating agents was found to run parallel to their cysticidal efficiency. The action of chlorine and chloramine compounds was attributed to the active chlorine. It was found that definite destructive changes occurred in cysts exposed to minimal cysticidal doses. These minimal doses were found to be materially higher than those ordinarily employed in water disinfection.

For about three years an automatic photoelectric residual chlorine recorder has been in successful use at Springfield, Ill. This instrument utilizes the ortholidine reaction in an alkaline or blue color range of 0 to 1.5 parts per million with a sensitivity of about 0.01 parts per million. The residual is recorded by a potentiometer of from 0 to 50 mv. range. The instrument permits a continuous record of the residual chlorine in chlorinated water as compared with the usual method of laboratory determinations on relatively infrequent individual samples.

DEIONIZING WATER

During the past ten years new applications of ion-exchange materials have been developed to such an extent that it is now possible completely to deionize water and produce the equivalent of distilled water (Frank Bachmann, *Jour. A.W.W.A.*, Vol. 36, p. 876, August 1944). From an economic standpoint complete deionization in the municipal water works field is limited to waters with high sodium bicarbonate, sulfate or chloride content, and to special applications. In the industrial field process and boiler feed water requirements offer unlimited applications for deionization.

WATER SOFTENING

Walker (Donald Walker, *Jour. A.W.W.A.*, Vol. 32, p. 675, June 1944) described a new technique in water softening plant design and operation, involving cold lime softening producing a completely stabilized water without alkalinity drop through the plant and without need for recarbonation. At Ann Arbor, Mich. a successful method of treatment has been developed consisting essentially of the following steps: about 75 per cent of the water to be treated is passed through the primary rapid mixing basin and the remainder to the second-stage basin; the major flow next flows through the slow mixing basin; thence through the settling tank where sludge is removed continuously for recirculation, 2 to 3 per cent being maintained in the first mixing tank; the overtreated major flow joins the untreated remaining flow in the secondary rapid mixing basin, all of the lime having been applied to the major flow; these combined flows, together with secondary return sludge, activated carbon, and soda ash, are all thoroughly mixed in the second-stage rapid mix basin; after this basin the combined flow is slow-mixed and settled prior to filtration by rapid sand filters.

C. R. Erickson, mechanical engineer of the Board of Water and Electric Light Commissioners of Lansing, Mich., has made a careful study of four methods for the disposal of lime sludge from water softening plants. The four methods are: (1) discharge to stream, (2) lagooning, (3) drying and sale of product, (4) reclaiming lime by drying and calcining. On the basis of an annual production of 20,000 tons of sludge per year (dry basis) Erickson's figures indicate total disposal costs per ton for the first two methods to be as follows: method 1, $0.17 and method 2, $0.40. For methods 3 and 4, he estimates net returns from sale of end products equivalent to $0.95 and $1.23 per ton of sludge to be disposed of.

The disposal or utilization of the sludge produced by water softening treatment has long been a problem. Sheen and Lammers (Robert T. Sheen and Herbert B. Lammers, *Jour. A.W.W.A.*, vol. 36, p. 1145, Nov. 1944) describe softening plants at the Wright Aeronautical Corp. at Cincinnati, O., and the Columbia Steel Corp., Provo, Utah, where the sludges are treated to obtain calcium carbonate and lime, respectively. At each plant selective softening is carried out to remove a substantial proportion of the calcium carbonate without materially reducing the magnesium carbonate, thus producing a sludge consisting mainly of calcium carbonate.

At the plant of the Wright Aeronautical Corporation it was computed that at capacity the net credit per day from the recovery of calcium carbonate was $68 as compared with $51.60 for the recovery of lime. At the Columbia Steel Corporation's plant it was found more economical to recover lime than calcium carbonate.

FLUORINE AND TEETH DECAY

Within the past ten years a great deal of work has been carried out to find the cause of "mottled enamel" of teeth (Basil G. Bibby, *Jour. N.E.W.W.A.*, Vol. 58, p. 101, June, 1944). It was finally found that this condition was most prevalent in regions where the fluorine content of drinking water was in excess of one part per million. On the other hand, it was found that where the water contained one or more parts per million of fluorine there was only about half as much dental decay as in regions where the water was free from fluorine. This latter fact has led to the advocacy of adding fluorides to public water supplies containing less than one part per million of fluorine, and such a program has actually been started in a city in New York state. In as much as the Federal Food and Drug Administration does not permit the inclusion of fluorides in toothpastes and the presence of fluorides in beer is frowned upon and prosecuted under pure food laws, it would seem incongruous, at least, for water works authorities to take the responsibility for a program of wholesale dental investigation of unforeseeable results.

The water supply of Newburgh, N. Y. is to have sodium fluoride added to it to determine the effectiveness of this treatment in the prevention of dental caries. The teeth of 1,000 children in Newburgh will be examined once a year for ten years, as will those of an equal number in Kingston, N. Y., where no fluoride will be added to the water supply. It is proposed to add 1.77 p.p.m. of sodium fluoride to the Newburgh supply, which like that of Kingston normally contains 0.1 p.p.m. or less.

POLIOMYELITIS AND DRINKING WATER

Although the theory that poliomyelitis might be spread by infected drinking water has been publicized in recent years, Dr. Krumbiegel (E. R. Krumbiegel, *Jour. A.W.W.A.*, vol. 36, p. 81, Jan. 1944), Commissioner of Health of Milwaukee, points out that such a theory is not in accordance with the known biologic behaviour of spread of the disease, which is distinctly different than that of water-borne disease. Dr. Krumbiegal concludes that at present there is no epidemiological evidence that permits a belief that water is of any importance in the spread of poliomyelitis.

SANITATION MANUAL

The *Sanitation Manual for Public Ground Water Supplies* published by the U. S. Public Health Service early in 1944, although not an official document was recommended by the Public Health Service for general adoption. The Manual covers many points related to the development and maintenance of ground water supplies. Among the items covered are exclusion of surface water from the site of the ground water supply, satisfactory earth formations above the water-bearing stratum, distances to sources of contamination, minimum depths of casings and curbings, construction and use of casings and curbing, gravel-treated wells, covers, platforms and floors, well seals or covers, well vents, well pits, construction and installation of pumps, pump house, lubrication of pump bearings, priming of pumps, protection of suction pipes, valve boxes, manholes and covers, airlift systems, cross-connections, bacteriological, physical, and chemical quality of water, plant supervision and control, water sampling, distribution, storage, protection during construction, disinfection after construction and repair, and, finally, the handling of bottled waters. The Manual also contains two appendices, one dealing with the cement grouting of wells for sanitary protection, and the other with methods for disinfection of wells, springs and appurtenances.

On the whole, the Manual is a valuable guide for the sanitary protection of ground water supplies. It possesses some of the defects which are more or less inevitable when a central agency in Washington attempts to establish a code of practice which will be applicable throughout the width and breadth of a county in which a great variety of local conditions exist. In certain items the Manual displays a slightly narrow provincial viewpoint, as though these items were prepared on the basis of experience in a limited region.

PUBLIC HEALTH

John H. Murdock, Jr., principal attorney for the American Water Works & Electric Co., presented a pertinent paper before the A.W.W.A., upon the limits to which water authorities must assume responsibility. This paper was inspired by the definition in the Public Health Service Drinking Water Standards which reads: "Water supply system includes the works and auxiliaries for collection, treatment and distribution from the source of supply to the free-flowing outlet of the ultimate consumer." According to Murdock the traditional "legal limit of a water supply system has been the property line with the rights of the property owner on his own property limited by contract or valid police power."

An interesting legal incidence occurred in Puerto Rico in 1944 when the Executive Council of the government of that island ordered the Ponce water supply system transferred to the Puerto Rico Water Resources Authority. The action of the Council was based on allegations of the Commissioner of Health that the Ponce water works failed "to provide to the inhabitants of said municipality a supply of water of a quality, amount and regularity sufficient for the ordinary requirements of said inhabitants under standards fixed by the Treasury of the United States for potable water and water for culinary uses furnished to public carriers in interstate commerce."

WATER WORKS DEPRECIATION

The Depreciation Committee of the American Water Works Association submitted in April 1944, a special report upon that of the National Association of Railroad and Utilities Commissioners dealing with the subject of depreciation. In particular the committee of the water works association disagreed with the other association's approval of the straight-line theory for application to the determination of accrued depreciation of long-lived water works structures.

POST-WAR CONSTRUCTION PLANS

Planning for post-war water works construction has made progress during 1944. At the end of August construction plans were under way for water works, amounting to 6.5 per cent of the national post-war public works program, according to the Committee on Water and Sewage Work Development. Post-war planning appears to have been somewhat retarded by rumors that Federal aid would be forthcoming. However, such aid seems unlikely, particularly as most local governmental units are in good financial condition. A few states, such as California, Maryland, Michigan, New Jersey, and New York provide state aid to municipalities for the engineering required for plans and specifications for post-war public works.

It is generally true that in the water works field, as in most other fields of activity, there has been built up a large potential demand for materials, equipment, and enlargement and improvement of facilities. The extent and rapidity of satisfaction of this demand following the end of the war in Europe will depend in large measure upon the availability of the necessary plans and specifications as well as of materials, equipment and labor. Of public services, that of water supply is one of the most important and is one which should receive the fullest consideration in planning for the post-war period.

STREET AND HIGHWAY TRAFFIC

By Ernest P. Goodrich
Consulting Engineer, New York

GENERAL

No passenger cars were produced during 1944 as all production of this type of vehicle was discontinued entirely on Feb. 10, 1942. The total number of passenger cars registered as of Dec. 31, 1944 was estimated at 25,500,000 as compared with 29,507,000 at the peak Dec. 31, 1941. Civilian motor trucks to the number of 75,152 were produced during the first nine months of 1944; 58,836 of these were classified in the 9,000-16,000 gross vehicle weight group, while 16,316 were in the heavy group, 16,000 gross vehicle weight and over. The military vehicle production for the first nine months was 464,250. It was estimated that total registration of civilian motor trucks in the United States at the end of 1944 was 4,500,000 as compared to 4,876,054 for the all-time peak in 1941.

According to the Office of Defense Transportation, the total scrappage of cars during the three years preceding the war was 6,000,000 vehicles. The number of vehicles scrapped, however, from 1942 to 1944 totaled 3,750,000. This indicated a tightening up on scrappage. Thus, over 2,000,000 vehicles were in operation that ordinarily would have been scrapped if new cars were available for replacement.

HIGHWAYS

A 34,000-mile network of superhighways was planned by the Federal Government as a post-war construction to connect all cities of 100,000 and over, plus many smaller key manufacturing centers which will be financed on a Federal and state cooperative basis. The inter-connecting national expressway will have two traffic lanes in each direction separated by a positive dividing strip. All cross-traffic would be eliminated and nearby communities would be furnished with selected entrances from belt-line bypasses. It was estimated that 20 per cent of the nation's traffic would be carried by this system, furnishing, however, only one per cent of the total mileage.

The limited-access highway appears to be an immediate and permanent solution to the problem of motor transportation in cities. It is a parkway or freeway especially designed for through traffic to which motorists and abutting property owners have only a restricted right of access, light, air, and view. Commercial vehicles are excluded from parkways. Freeways are open to all customary forms of motor traffic. The main objective of limited access highways is to supply the most economical type of facility for the movement of traffic, especially in congested urban areas.

Only 17 states have sanctioned these highways within the last six years, and even in a few of these states restrictions were imposed limiting their use. Authority to create these ways is vested in city authorities in only six of the 17 states. A small segment of the highways facilitates the movement of large numbers of vehicles. To do so safely with a minimum of obstruction and a maximum of speed can be best accomplished if the highways are protected by the technique of limited access.

The Public Roads Administration disclosed a minimum of over 1,000 miles of limited access highways and streets in the United States.

THE EXAMPLE OF GREAT BRITAIN

In Great Britain, the motorway was believed to be the only known method of segregation of heavy and light, rapid and slower types of vehicles. On motorways it was found that with average speeds as high as 55 miles per hour the fuel and tire consumption per mile run was reduced by 30 per cent. By comparing the number of accidents on 100 miles of mixed traffic roads and 100 miles on motorways between the same two places, it was found that the accidents were reduced by 83 per cent on the motorways.

Out of 39,300 towns, townlets, and villages in Great Britain, 31,500 were without railway stations. This isolation and the archaic road layout, principally influenced the undesirable concentration of industries and the urbanization of the industrial population. It was felt that a frame work of motorways was needed to relieve the other roads of the burden of through traffic which should never have been imposed on them.

COUNTY POST-WAR PLANNING IN CALIFORNIA

The California State Legislature appropriated $1,500,000 in 1943 to provide plans, surveys, and specifications for post-war county highway construction projects which funds are for plans only and not for construction or right of way. This was entirely separate from any Federal legislation. To obtain the minimum information required for intelligent and orderly review of the proposed post-war planning program of the county a budget proposal was prepared.

SIGNS, SIGNALS AND MARKINGS

The American Standards Association approved the design, performance, and construction specifications for pre-timed fixed cycle traffic signal controllers developed by the Institute of Traffic Engineers.

Sacramento, Calif. relied on traffic lacquer for its markings. Nearly all of its streets are paved with bituminous mixtures which facilitated trenching for laying and repairing pipe lines and other utility conduits and the restoration of the pavement after trenches have been filled. Because the clay sub-soil tended towards uneven settlement, it became necessary to smooth the pavement by means of a heater-planer, which is hard on buttons and markers of almost any material. Cast aluminum markers, however, are used to designate safety zones for street car patrons. They have a base of about 8 x 18 inches and have an overall height of about three inches. One three-inch diameter red reflector and twelve ⅞-inch diameter clear reflectors all directed toward approaching vehicular traffic.

Two types of street and highway delineators are available which furnish vehicle guidance at night along unlighted roadways.

A new automatic traffic device was designed patterned after the standard railroad crossing gate with the addition of a standard intersection signal light placed on top of its stand which is able to control pedestrian traffic at school and congested street crossings, industrial plants and other intersections.

A device was developed by the Traffic Section of the Chicago Park District that was found particularly useful as a marker in laying out channelization patterns and other complicated road-marking work especially at curves. (1) It defines lanes, no matter how complicated, describing the normal movements of drivers. (2) It saves considerable time in laying out work, particularly at curves. (3) It reduces traffic delays due to the saving of time in laying out the markings. (4) It acts as a safety device in that smaller areas are closed to traffic and further that workers do not have to cross traffic as often as formerly to check measurements.

Surveys showed that the two principal faults of stop signs are disfigurement and improper positioning in relation to the needs of traffic.

TRAFFIC LIGHTS AND PLASTIC MARKERS

It was found that traffic lights, timed for continuous flow of vehicles at fairly slow speeds, conflicted with pedestrian needs. The 40-second interval between light changes was increased to 60-seconds at the major crossings. This effectively halted jaywalking, and years of confusion over pedestrian traffic was ended. A survey revealed that the new signal timing reduced total vehicle stoppage for lights from 48 to 28 per cent.

The "Walk-Wait" light was found to be best after officials experimented with various pedestrian signals. These lights freed police officers from traffic duty, and the State Highway Department recognized their value by adopting them.

Denver, Colorado preferred plastic markers because it was felt the visibility was far superior to paint. No sign of wear or loss of visibility was shown after the 1943-1944 winter.

A heavy stop line at an intersection for vehicular traffic and a diagonal line between the pedestrian travel to the right made pedestrian travel flow faster and lessened the pedestrian's confusion in mixed crossing. Even though a durable marker costs more, it was felt that its long life pays for the difference. The cost over paint is offset in about two years, and the life of the plastic is claimed to be ten years or more.

FATALITIES

An analysis was made to determine the factors which have an important effect on state traffic death rates but over which traffic officials have little control. Fourteen possible factors were analyzed. The following were deemed most important and were found to account for two thirds of the variation in traffic death rates among states: (1.) Gasoline consumption per capita; (2.) Increase in gasoline consumption over previous year; (3.) Per cent of highway mileage surfaced; (4.) Population increase over a ten year period; (5.) Vehicles per capita. The following three factors were found to account for one-half of the variation in pedestrian death rates among states: (1.) Population increase over a ten year period; (2.) Per cent of population that is urban; (3.) Income per capita.

The factors listed should be taken into consideration when comparisons are made between states regarding the effectiveness of educational or enforcement programs. This can be done by calculating the predicted death rate based on the factors mentioned. If the death rate is below the predicted rate for that state then it may be assumed that other factors such as traffic safety programs and pedestrian protection programs have been above average and special credit is due that state. This is a fairer method of comparing the efforts of officials in the various states than using the actual death rate for each state. Allowances are made for unfavorable factors which tend to cause a high rate and over which safety officials have no control.

Accident rate differences may be caused by (a) physical factors over which administrators have little control such as amount of traffic, population, population characteristics, and (b) traffic safety programs, such as enforcement, driver training, and the like. The more people living in a state, the more people that are likely to be killed in traffic accidents and also that the greater the traffic per person the more deaths are likely to result. Records of states were compared and this has been taken into consideration by computing the mileage death rate rather than the population death rate.

HIGHWAY TRAFFIC CONFERENCE

A Highway Traffic Conference was held under the auspices of the Eno Foundation for Highway Traffic Control to study methods of forestalling a repetition of the all-time high of 40,000 traffic fatalities in 1941. Because of shortages of manpower, materials, and equipment owing to the war, many good highways have necessarily been neglected and have turned into rough and dangerous thoroughfares.

U. S. PUBLIC ROADS ADMINISTRATION STUDY

A study by the United States Public Roads Administration demonstrated that before the war, highways wore out faster than they could be constructed. The segregation of through and local traffic is a main objective. More one-way streets and limited access highways will have to be depended on. Off-street parking facilities and public transportation terminals would solve many problems. All departments should work together especially regarding the use and type of sign and signal equipment. It was also pointed out that along with sound designing, engineering, and building of streets and highways, equal stress would be put on educating the pedestrian and driver. High School and college courses teaching proper handling of a car by drivers of any age was urged.

To aid traffic solutions the following regulations were recommended: where traffic falls below accepted minimum standards, traffic signals should be discontinued; when volumes fall below certain minimums traffic signals should be placed on flashing operations; signal cycles should be as short as possible; the waiting periods devoted to a green light should conform to the relative volumes of traffic per lane on each street; cycle length should be altered at appropriate times to fit changed conditions where traffic volume fluctuates widely during the day; in order to provide progressive traffic movement and reduce the number of vehicle stops, fixed time signals within one-quarter mile of one another should be coordinated; unnecessary stop signs should be eliminated.

NATIONAL SAFETY COUNCIL FINDINGS

The National Safety Council disclosed the fact that beginning in October 1943, in each month there was a greater proportionate death toll than for the same month in the preceding year. The January toll was 30 per cent more than that of the year before. Many officials and the public did not realize the danger of the situation because of the reduced figures resulting from wartime decreases in travel and wartime travel restrictions.

Men to the number of 32,078 were killed in battle from Pearl Harbor to Jan. 1, 1944; 54,000 persons were killed in traffic accidents in the same period; 32,000 workers were killed in traffic accidents during this time; 78,073 soldiers were wounded and missing (excluding prisoners of war), 1,-

900,000 persons were injured in traffic accidents, 1,100,000 of whom were workers, which comparison reveals that more are killed at home than overseas.

TRANSPORTATION

A double-deck bus, 45 feet long, seating 100 people and with wide aisles to accommodate as many as 150 standees was in operation at Camp Carson, Colorado. Others were being built of non-strategic materials to serve other army camps.

As a result of surveys by the New Jersey War Transportation Committee it was found that 76 per cent of the war workers in plants employing 100 or more persons depended upon highway motor transportation.

The Automobile Manufactures Association assembled information based upon surveys made by the various State Highway Traffic Advisory Committees to the War Department covering 94 plants in ten states which disclosed that 73 per cent of the workers depended upon the automobile for getting to work.

The Michigan State Highway Department conducted similar studies covering 749 plants which showed that 75 per cent of the workers depended on private automobiles. The percentages in the various communities in Michigan varied from a low of 61 per cent in the city of Detroit to 91 per cent in Monroe. In the Detroit area, but outside of Detroit itself, 89 per cent of the workers used private passenger cars.

A survey was made at the Willow Run Bomber Plant on Jan. 31, 1944 of the number of miles left in each worker's car (15,000). The average was 45,000 miles, each car averaging 48 miles per day or 720,000 miles per day for the 15,000 cars. This divided by the 45,000 figure indicated that cars will go off the road at the rate of 16 per day, 416 per month, or 4,992 per year. On July 21, 1943 42,400 employees commuted in 16,800 cars. Manufacturing efficiency reduced this to 35,060 employees and 15,000 cars (7,340 less employees and 1,800 less cars).

The following list reveals ride sharing figures which are interesting:

Plant	Persons Per Car
Kelsey-Hayes Wheel	3.6
Willow Run	3.1
Yellow Coach	3.5 up from 2.9
Oldsmobile	2.5 down from 2.6

SAFETY MEASURES

A streamlined overhead crossing was built at a housing project in Brooklyn, enabling people to go from one part of the project to another without danger from traffic. A chain link fence edging both sides of the road made the overpass the only place where it was possible to cross.

Wide and unused space at intersections in Ohio were broken up into channels designed to direct traffic into specific lanes, reduce the number of conflict points to a minimum, and simplify driver decision. Raised barriers were necessary which were forceful enough to compel the drivers to confine their moves to the paved area between them but which are easily surmountable in case of emergency. The Ohio Department of Highways through its Division of Traffic and Safety designed a pre-cast block which has met all of the foregoing requirements.

The number of accidents caused by turning movements at an intersection in Detroit were greatly reduced by redesigning the intersection. Left turns were eliminated and use made of a cut-off. An intricate traffic signal problem was involved to clear an area in which to store the new movement from the cut-off pending the time when it could proceed across the main thoroughfare.

Pedestrian islands of a unique design were completed at one of the intersections in Camden, New Jersey. They gave the pedestrian positive protection in the center of the street and minimized the danger to the motorists of collision with the island.

During the past 15 years Indianapolis has installed 84 street-car loading zones at 40 intersections. Motorists crashed into the piers at night, even though the concrete piers protecting the zones were equipped with red warning lights. To correct this, overhead globes were installed at each zone, the upper half being red and the lower half white to show the pier plainly at night. Accidents were reduced two-thirds at the 22 loading zones thus far improved. Similar action will be taken on other loading zones and the entire zone design will be modernized.

Every classroom from the kindergarten through the twelfth grade in San Bernardino, Calif. emphasized traffic safety education. This safety program was inaugurated in 1938 and has had a marked effect in stimulating children to greater caution in traffic and in reducing the number of traffic accidents involving children of school age. Monthly traffic safety bulletins were sent to all classroom teachers in the city. Student safety committees and traffic patrols in each elementary school and traffic student officers in the secondary schools were appointed. At the beginning of the school year the safety award, which is a framed citation, is hung in the main hall of each school. Bicycle licenses were required of all bicycle riders residing in the city. Widespread and continual newspaper publicity stimulated and maintained popular interest in the school safety program.

LIGHTING

A survey of 91 cities and four states disclosed that adequate street lighting would eliminate approximately one-half of the night accidents in cities at an average saving of approximately $187,000,000 annually or $2.70 per capita.

PARKING AND PARKING METERS

Origin-destination traffic studies and parking-needs surveys, are now laying the basis for modern post-war thoroughfares, off-street parking facilities, and mass transit improvements in many American cities where half of all the miles of highway travel is concentrated and which are the starting points or destinations of three of every four motor trips on all rural roads. City origin-destination traffic studies and the parking surveys are now under way in many states.

A group of engineers and business men in Los Angeles perfected an automobile "automat" for the parking of automobiles which completely eliminates attendants handling or driving the cars. At the entrance of the building an automatic device moves the car by grasping the bumpers and slides it to an elevator and to various levels of the building. A button on a master control board is pressed by an attendant who controls the moving of the car to a stall. An "out" button for the stall in which the car is parked is pressed to return the car to its owner. Twenty-two minutes are required to place a car in a stall or return it with this new system.

Approximately 200,000 parking meters were in operation in 449 cities ranging in population from 10,000 to 1,000,000.

Parking meters in Minneapolis have proved to be both a financial and a traffic asset. They paid for themselves in a short time and most of the net income now is profit to the city.

SPEEDS

As a result of wartime traffic signal retiming, overall speeds on main downtown streets of Fort Wayne, Ind. doubled and tripled. The restriction of parking on 9½ miles of city streets resulted in a substantial accident reduction on these streets. The wartime industrial traffic problem brought a need for these programs and led to a speed-and-delay study. Speeds on main routes across the city varied from four miles an hour in congested districts to over 40 miles in outlying sections, the average being about 16 miles per hour for a trip across the city.

Speaking as an official who had to look at daily records of gruesome accidents for years, and as one who knows that no improvements in the making of cars and roads, no center curbs, no training, no regulations, and no police supervision can make high speed even comparatively safe. Park Commissioner Robert Moses suggested that no manufacturer should be allowed to advertise that he makes cars which will run 80 miles an hour.

What the public's attitude would be toward rural speed in the immediate post-war period, was questioned. Composite replies from traffic engineers, police officials, and other traffic and transportation authorities throughout the country, revealed that 58 per cent expected the public to demand higher rural speeds, 37 per cent expected no change in public attitude, and 5 per cent expected a demand for lower speeds. The composite opinion in answer to the question, "At what speed will motorists want to drive on rural highways six months after the war?" was 65 miles per hour, with 60 and 70 miles per hour being most frequently mentioned.

Attention was called to the little additional time saved when traveling at speeds above 55 miles per hour. If the sustained speed was raised five miles per hour to 60 miles, only 1.8 minutes would be saved, to 65 miles only 3.3 minutes, and to 70 miles only 4.6 minutes would be saved in a trip of 20 miles. It was questionable whether the time saved at these higher speeds for the maximum distance traveled by 85 per cent of the motorists (that is 20 miles) was worth the increased operating costs and accident potentialities involved.

In some of the large cities, during peak hours of traffic, average speeds of motor vehicles drop to as low as 3 miles per hour. On a typical street in Boston a test run disclosed that it took seven minutes to travel one mile, a speed of approximately 8.6 per hour. Failure to provide adequate transportation facilities is indicated in Los Angeles where in pre-automobile days it took ten minutes by horse and buggy it now takes 14 minutes by automobile. As well as being time saving, motor vehicle operation and maintenance costs are substantially reduced by the application of the limited access principle. Only twelve miles or less per gallon can be made in congested traffic, whereas over 18 miles per gallon can be obtained where there is no traffic interference according to Boston Traffic tests.

Less than 15 per cent of the mishaps on ordinary roads will occur on an equal mileage of limited access highways. The capacity comparison on different types of highways conservatively estimated an allocation of 400 vehicles per lane per hour to ordinary urban streets compared with 1,500 on limited access urban facilities.

TRAFFIC

A traffic counter was purchased by Lansing, Mich. to determine the total volume of traffic at given points on the main arterial highways. Such counters were also used to record directional flows of traffic at intersections, thus determining the necessity for traffic signal installations or operations. The checks made by the machine indicated that these were correct within five per cent. To ascertain if the machines are working properly it was thought advisable to check the machines twice a day. It was found that it would cost considerably more if the same information were to be gathered manually.

Many meetings were held to consider the street and highway traffic problems which had been created by the war and the subject of post-war motor travel. It was generally felt that the only real traffic problem was congestion and if this were eliminated the urban traffic problem would not exist. Pedestrians, intersecting traffic, parking, and capacity limitations of existing roadways were considered to be the major causes of congestion. By separating the grades with the lowering of one stream of both pedestrian and vehicular traffic one half the desired clearance and raising the other stream the other half, with stairways for pedestrians to cross right-angular traffic flow, pedestrian and intersectional congestion can be eliminated.

It was agreed that planning studies should be made to determine the probable number of cars reasonably expected to be driven into each part of each district. Parking spaces can then be provided by acquiring old buildings and sites and erecting multi-floored open-sided ramp entry structures, which facilities should be municipal projects thereby eliminating heavy tax charges. No service station facilities should be provided. A three-dollar monthly fee for each car would permit the amortization of the cost within a reasonable time.

The construction of a one-way circular freeway around the business area with ramps leading into and from the business district and throughways leading to the residential and suburban areas would increase roadway capacity. This plan would not interfere with owners and operators of existing parking lots and garages but rather would help them if all the service station activities were excluded from the proposed parking facilities.

MEETINGS

The American Transit Association held a Convention-in-Print in place of its annual meeting. Among the "written speeches" prepared by eminent traffic specialists, several were devoted largely to street and highway matters. The President of the American Institute of Planners discussed traffic and city planning. The Federal Commission of Public Roads described the Inter-regional Highway net which has been recommended by a special committee to interconnect all cities of 100,000 and over and many smaller ones of industrial importance. The Planning Director of Buffalo wrote of the proper location and design of freeways.

SURVEYS

Detroit started a traffic survey, conducted on an all-out basis in so far as motorists who entered, left, or terminated in the downtown area were concerned. The area was literally filled with 164 police officers and 5,000 Boy Scouts who obtained detailed information of the travel and parking habits of motorists. Every motorist entering or leaving the area was stopped by a police officer. While he was being stopped, Boy Scouts were tallying him for cordon count data. Wherever and whenever he parked, he was stopped by Boy Scouts who not only recorded the time parked and unparked, but asked several questions for origin and destination data. Three surveys were conducted on the same day for the 12 hours between 7:00 A.M. to 7:00 P.M.,—A Through Traffic Survey, A Parking Survey, and a Cordon Count.

MISCELLANEOUS

Street and Highway travel was strongly influenced by the effect of the war on all the country's life. Even while planning and constructing to meet the military necessity, thought was given to the after-war usefulness of each project. Gasoline and tire rationing and measures employed to conserve them, were the two major direct causes. Changes in demand caused by new curtailed industries also influenced local conditions. The accident rate increased in spite of a reduction in travel.

An ordinance imposed a license fee of $5 per annum on passenger automobiles using the city streets of Chattanooga, Tenn. A non-resident challenged the validity of the ordinance on the ground that it was an additional burden on interstate commerce contrary to the Commerce Clause of the Constitution of the United States. The ordinance was sustained by the court since the defendant regularly used the streets on his business and was not engaged in interstate commerce. Compensation for the use of streets may be required by a city or state which at its own expense furnishes highways for those engaged in interstate commerce and they are no burden on interstate commerce provided the charges are reasonable and uniform.

A Truck Drivers' Training Center in Detroit was started to train those helping to relieve shortage of drivers needed for transportation of war loads. Other cities sent delegations to study the instruction methods.

At a meeting of the Joint Committee on Uniform Traffic Control Devices in Washington, plans were made for the preparation of the post-war edition of the manual on *Uniform Traffic Control Devices*. A sub-committee completed a national survey of traffic signal experience to guide the establishment of criteria for future signal installation and operation. Post-war Federal-aid highway legislation passed by the United States Senate in September made mandatory a state traffic code on signals, signs, and markers, covering all urban and rural routes receiving Federal aid, and the Public Roads Administration was directed to approve only those state codes which promote safe and efficient traffic movement.

PERIODICAL PUBLICATIONS

Bus Transportation
330 West 42nd Street, New York City.
Economic Geology
Natural History Bldg., Urbana, Ill.
Electrical Communication
67 Broad Street, New York City.
Electrical World
330 West 42nd Street, New York City.
Gas Age-Record
9 East 38th Street, New York City.
Journal of the American Water Works Association
500 Fifth Ave., New York City.
Journal of Geology
5750 Ellis Ave., Chicago.
National Engineer
176 W. Adams Street, Chicago.
Public Service Magazine
1012 Pioneer Bldg., St. Paul, Minn.
Public Utilities Fortnightly
1038 Munsey Bldg., Washington, D. C.
Public Works
310 East 45th Street, New York City.
Sewage Works Journal
40 Wall Street, New York City.
Water Works and Sewerage
155 East 44th Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN PLANNING AND CIVIC ASSOCIATION, 901 Union Trust Bldg., Washington, D. C.
AMERICAN PUBLIC UTILITIES BUREAU, 280 Broadway, New York City.
AMERICAN TRANSIT ASSOCIATION, 292 Madison Ave., New York City.
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EDISON ELECTRIC INSTITUTE, 420 Lexington Ave., New York City.
INTERNATIONAL ASSN. OF FIRE FIGHTERS, A. F. L. Building, Washington, D. C.
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PUBLIC SERVICE COMMISSION, State Division, 233 Broadway, New York City.

DIVISION IX

DEFENSE AND ARMAMENT

THE UNITED STATES ARMY

By Robert S. Thomas
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ARMY ORGANIZATION

During the year 1944, administrative command organization was headed by Henry L. Stimson, Secretary of War, with Robert P. Patterson, Under Secretary of War; John J. McCloy, Assistant Secretary of War, and Robert A. Lovett, Assistant Secretary of War for Air. The military phase of command included General George C. Marshall, Chief of Staff; Lieut. General Ben Lear, in command of Army Ground Forces; General Henry H. Arnold, in command of Army Air Forces; and Lieut. General Brehon B. Somervell, in command of Army Service Forces.

Army commanders were: Lieut. General Courtney Hodges, First; Lieut. General Lloyd R. Fredendall, Second; Lieut. General George S. Patton, Jr., Third; Lieut. General Mark W. Clark, Fifth (succeeded by Lieut. General Lucian K. Truscott, Jr.); Lieut. General Walter Kreuger, Sixth; Lieut. General Alexander M. Patch, Seventh; Lieut. General William H. Simpson, Ninth; Lieut. General Lewis H. Brereton, First Allied Airborne Army (largely U. S. troops). Army Group commanders were: Lieut. General Jocob Devers, Sixth; Lieut. General Omar Bradley, Twelfth; Lieut. General Mark W. Clark, Fifteenth. Theater command was as follows: European, General Dwight Eisenhower; Pacific, General Douglas MacArthur; Asia, General Joseph Stilwell, until his return to the United States late in the year, whereupon Lieut. General Daniel I. Sultan took over the Burma-India Theater and Major General Albert C. Wedemeyer the China Theater.

In the combat areas, the following Air commands obtained: U.S. Strategic Air Force in Western Europe, Lieut. General Carl Spaatz; Mediterranean Theater, Lieut. General Ira C. Eaker; Southwest Pacific Theater, Lieut. General George C. Kenney. The following officers commanded numerically designated Air Forces as indicated: 5th, Major General Ennis C. Whitehead, Southern Pacific; 6th, Major General Edgar P. Sorenson, Caribbean; 8th, Lieut. General James H. Doolittle, Western Europe; 9th, Major General Hoyt S. Vandenberg, Western Europe; 10th, Major General Howard D. Davidson, India; 11th, Major General Davenport Johnson, Alaska; 12th, Major General John K. Cannon, Mediterranean; 13th, Major General Clair Street, Southwest Pacific; 14th, Major General Claire Chennault, China; 15th, Major General Nathan F. Twining, Mediterranean.

Service Commands in the United States were headed as follows: First, with headquarters in Boston, Mass., Major General Sherman Miles; Second, headquarters in Governors Island, New York, Major General Thomas A. Terry; Third, headquarters in Baltimore, Md., Major General Philip Hayes; Fourth, headquarters in Atlanta, Ga., Major General Frederick E. Uhl; Fifth, headquarters in Columbus, O., Major General James L. Collins; Sixth, headquarters in Chicago, Ill., Major General Henry S. Aurand; Seventh, headquarters in Omaha, Neb., Major General Clarence H. Danielson; Eighth, headquarters in Dallas, Tex., Major General Richard Donovan; Ninth, headquarters in Fort Douglas, Utah, Major General William E. Shedd.

The Chief of Staff, General Marshall had as assistants Lieut. General Joseph T. McNarney, Deputy Chief of Staff, succeeded by Lieut. General Thomas T. Handy; Major General Stephen G. Henry, G-1; Major General Clayton L. Bissell, G-2; Major General Roy E. Porter, G-3; Major General Russell L. Maxwell, G-4; Major General John E. Hull, Operations Division.

The Chiefs of the several arms and departments were: Major General James A. Ulio, Adjutant General's Department; Major General Virgil L. Peterson, Inspector General's Department; Major General Edmund B. Gregory, Quartermaster Corps; Major General Norman T. Kirk, Surgeon General; Major General A. H. Carter, Fiscal Director; Major General Howard K. Loughry, Chief of Finance; Major General Eugene Reybold, Corps of Engineers; Major General Levin H. Campbell, Ordnance Department; Major General Harry C. Ingles, Signal Corps; Major General William N. Porter, Chemical Warfare Service.

Late in the year, five-star rank was authorized for "General of the Army" and "Fleet Admiral." Eight such elevations were provided to be shared equally by the Army and the Navy. On Dec. 15, the Senate confirmed four generals and three admirals to the new rank, *viz*, Admiral Leahy, the President's chief of staff; Admiral King, chief of naval operations; Admiral Nimitz, Pacific commander; General Marshall, Army chief of staff; General MacArthur, commander in the Philippines; General Eisenhower, European commander; and General Arnold, Army Air Force commander. These new ranks carry normal base pay of $8,000 a year and a subsistence allowance increased from $2,000 to $5,000 per year. Congress specifically provided that the new titles would lapse six months after termination of the war.

RÉSUMÉ OF PRINCIPAL EVENTS OF THE YEAR

Production.—The opening of the year 1944 found American and Allied thoughts concentrating upon the problem of invading the continent of Europe. Unless this could be done successfully and the way prepared for decisive defeat of Germany, little hope could be had for an early peace. Considerable attention was given to production levels. The tremendous overall mechanization of warfare definitely made labor a necessary and continuing partner of all fighting men on the battlefield, in order that needed machine guns, mortars, tanks, planes, the big guns of the artillery, and all other sinews of war should flow steadily from factories and munitions plants to active military theaters of operations. In 1944, work stoppages were treated with official concern yet lowered production only infinitesimally. There was a constant appeal for greater effort. Against stubborn and fierce resistance abroad, our fighting men did a wonderful job of breaking down German and Japanese military might.

January.—Preceded by intense air bombardment which pounded air fields near Rome and railways in central Italy, our troops on Jan. 26 landed in western Italy about 30 miles south of Rome (Anzio Beach) and struck at the Appian Way.

In other operations, the German center of chemical industry at Ludwigshaven was heavily bombed; the enemy rocket-launching area in Pas-de-Calais, France; the naval base at Toulon; and the Channel coast of France were the targets of repeated air raids.

In the southwest Pacific our airmen wrought great destruction at Rabaul in New Britain and Wewak in New Guinea. Allied flyers in this area, during January, destroyed 463 enemy planes and put 109 others out of service; this in addition to sinking 23 ocean-going enemy vessels. In cooperation with naval task force flyers, the Marshall Islands, Paramushiro, and Caroline Island bases were bombed. In this month was revealed the infamous Japanese torture of prisoners captured on Bataan.

February.—Using the same tactics which had proved successful on Attu in 1943, American amphibious forces by-passed important Jap posts at Wotje, Maloelap, Mille, and Jaluit, to seize Kwajalein and Eniwetok. This move operated to cut off the Japs in the eastern Marshalls between western islands and the Gilberts. Remaining Japanese in the Solomons were isolated by our capture of Green Island off the tip of New Ireland. American planes bombed Truk, Japanese naval base, and sank many ships. Following the attacks of carrier-borne planes, American task force struck at Japan's inner circle of defenses in the Central Pacific, shelling Saipan, Guam, Tinian in the Marianas.

In Italy the famous Benedictine Monastery at Cassino was razed because the Nazis used it for combat observation purposes.

Off the coast of China and French Indo-China, enemy shipping was hard hit by American bombers.

Under the leadership of Lieut. General Carl Spaatz, a double-purpose continental air attack program was formulated: (1) strike enemy fighter formations, and, (2) strike enemy industrial centers such as Leipzig and Stuttgart. To carry this out, attacks were launched repeatedly against great German industrial plants by Allied air units based in England and in Italy.

March.—Nazis attempted a "Beetle Tank" attack against Anzio Beachhead troops, sending these explosive-laden, radio-controlled tanks against our forces. The effort failed.

In this month, particularly heavy air attacks were launched against Berlin, causing much damage.

In the southwest Pacific, General MacArthur's amphibious force occupied Los Negros Island and seized Momote airfield. Units of the 1st Cavalry Division, dismounted, made this landing. The waters of the Bismarck Archipelago were becoming more and more an Allied lake. Having gained control of the Gilberts, the Marshalls, and the Admiralty Islands, our forces had now to plan attacks on the Marianas, the Carolines, and the Philippines in the Japanese secondary line.

German fighter planes and German factories were under relentless attack —Berlin, Brunswick, Frankfurt-on-the-Main, Augsburg, and Friederichshafen bombed day after day. There were definite signs that the strength of the German Air Forces (Luftwaffe) was being seriously depleted by Allied attacks.

In Italy, the airport of Foggia was captured, giving us a needed southern air base from which to attack the Balkans, Austria, and southern Germany. Our planes smashed at the Sofia railway yards; at a Messerschmitt plant in Klagenfurt; at factories in Vienna and Graz, both in Austria.

In the Arakan sector of the Burma coast, Allied forces routed a dangerous Japanese attack. In the Burma jungle, the first American infantry unit to fight on the Asiatic mainland in this war marched 200 miles inland to join forces with Chinese troops in common cause against the Japanese. After the capture of Walawbum, by a combined Chinese-American force, movement was directed southward to clear the Hukawng Valley.

April.—In this month, the Army's manpower objective of 7,700,000 was reached and exceeded.

Only minor ground activity in Italy. Allied planes continued systematic hammering of railways, highways, and port facilities.

Air assaults were maintained daily against Germany and on parts of France held by Germany. Strength of German air opposition noticeably decreased, and our percentage of losses fell off. European and Italian-based Allied planes cooperated in these attacks on Germany.

In the southwest Pacific, mopping

up of the Admiralty Islands continued; on New Guinea, Japanese air reinforcements were caught flat-footed, and 288 planes concentrated at Hollandia were wiped out. With the exception of Rabaul, the Japanese were completely driven out of New Britain; enemy attacks in Empress Augusta Bay area collapsed completely. Steadily reaching northward, our planes began to strike at the Carolines and the Kuriles, the latter being raided 14 times in one week. Truk and Ponape were raided repeatedly.

In India, the Japanese, by cutting the road between Imphal and Kohima, imperiled the supply line of the Americans and British. Out of China, U. S. 14th Air Force continued to hammer Japanese installations on Hainan Island and in French Indo-China. In Saigon the Japanese were caught completely by surprise by a 14th Air Force attack. Combined Chinese, British, and American troop units attacked the Myitkyina area of Burma.

May.—Gustav Line in Italy smashed and Allies drove closer to Rome. In this month, patrols from the Anzio Beachhead and American patrols from the main Italian battlefront to the southeast effected a junction which represented an advance of American elements of the Fifth Army of more than 60 miles in 14 days. British and Canadian troops hammered the center of the Hitler line and penetrated it to Pontecorvo. With tanks and planes, our forces moved inland to cut Nazi supply lines to the south.

Air attacks continued against the German homeland, slowing up their munitions production, dislocating transportation, diminishing their fighting strength, and smashing their military installations. Allied air forces hammered the Nazis in France, in the Lowlands, and in Germany, striking at Kiel, Brunswick, and Berlin. Nazi supply line through Rumania was blasted.

In the Pacific, all enemy airfields at Hollandia and Aitape came into American hands. Enemy pockets in process of being mopped up on Hollandia and American vantage ground was widened in the Empress Augusta Bay area. A navy task force struck sharply at Truk. Land-based bombers drove against Paramushiro in the Kuriles and against Guam and Truk in the central Pacific. Japanese base on the island of Wakde, off northwestern New Guinea, was captured. On the island of Java, the naval base of Soerabaja was attacked in an action which demonstrated cooperation of the commands of General MacArthur in the southwest Pacific, Admiral Nimitz in the central Pacific, and Admiral Lord Louis Mountbatten in southeast Asia. An American task force bombed Marcus Island, just 1,200 miles from Tokyo.

In the China-Burma-India Theater of operations, Japanese resistance stiffened. In this area General Stilwell's forces received their first American medium tank unit. In the Yellow River district, our air units supported attacks made by Chinese ground troops. "Merrill's Marauders," the troops of Brigadier General Frank Merrill, made an enveloping swing through the jungle to bring American and Chinese troops into position to shell Myitkyina, which, in spite of the first heavy rains of the monsoon season, was later partially occupied by Chinese and American troops.

June.—Rome was captured by Allied forces on June 4 and our troops thereafter moved rapidly northward, capturing Civitavecchia.

On Tuesday, June 6, Allied forces under General Eisenhower invaded France, landing at Cherbourg. This invasion, coordinated to employ all means of assault known to modern warfare, included the greatest airborne troop operation ever attempted. About 1,000 British bombers opened the attack on the beach defenses; 4,000 ships of the invasion fleet approached the French shore and Allied warships opened up with murderous fury on enemy shore installations. A great fleet of American bombers, some 1,400 planes, followed the British bombers and, in the hour between 6:30 a. m. and 7:30 a. m., London time, the first wave of landing troops went ashore, facing enemy artillery shells, mortar fire, and land mines. Against determined resistance, the Allies fought throughout the month to clear the Nazis from the Cherbourg Peninsula. The Germans put in armored units and brought veteran troops from the Russian front to try to check the Allied advance. French Forces of the Interior, by the thousands, joined the Allied troops.

In the Pacific area, our troops landed on Biak Island and captured the Mokmer airfield. The Kuriles and Bonin were shelled by our task forces. In a fierce naval action west of Saipan, the Japanese fleet lost a large carrier, a destroyer, and three tankers. Other Japanese vessels seriously damaged in this engagement were three carriers, a battleship, a cruiser, two destroyers, and two tankers. A strong task force landed and captured Saipan after fierce fighting.

July.—Nazi resistance seemed to soften considerably in this month. This was especially noticeable in the wholesale surrender of their troops, offering but little previous resistance. In Normandy, General Patton's armored forces smashed across the base of the Norman peninsula, sealing it off as far as the Nazis were concerned.

In the Pacific, Major General Andrew D. Bruce's American troops liberated Guam from Japanese domination. Tojo quit as Japanese Premier.

Gen. Clark's forces in Italy captured Pisa and Livorno (Leghorn).

August.—People of southern France saw the American Seventh Army land and, seeking to drive up the Rhone River Valley, establish beachheads in the Toulon area. In an enveloping movement, Gen Patton's troops surrounded Paris, and French and American troops paraded through the Arc de Triomphe to the cheers of a liberated citizenry. Swinging to the Swiss border, near Geneva, Patton detached a column to turn southward and join Gen. Patch's Seventh Army troops moving northward.

In Italy, Clark's Fifth Army drove up the Arno Valley, capturing Florence.

President Roosevelt, Admiral Nimitz, and General MacArthur conferred in Hawaii on ultimate destruction of the Japanese Empire. An American task force sank an entire Japanese convoy, numbering 11 vessels (five of which were destroyers) off the Bonin Islands. American B-29's made the first of what was to number many super bombing raids on the Japanese home islands, striking principally at industrial targets.

In Asia, the Japanese were driven out of India.

Rumania, under Allied pressure, was forced out of her former alliance and now declared war against Germany. Another ally of the Nazis, Bulgaria, gave evidence of wanting to quit.

September.—Allied armies surged forward on the western front. Gen. Patch's Seventh Army reached the entrance to Belfort Gap, aiming at the Rhine Valley. Patton pushed forward, covering four passes through the Vosges Mountains. Our British allies, using an air-borne force, tried to seize Arnhem with the purpose of turning the flank of the Siegfried Line. Allies entered Luxembourg and Nazis were driven out of most of Belgium and part of Holland.

Bitter, last-ditch fighting raged on the Po River Line in Italy.

In the Pacific, Admiral Halsey's fleet sank 52 Japanese ships near Mindanao in the Philippines; many lesser Philippine islands were bombed; Morotai in the Halmahera Islands was occupied; Japanese were driven out of Peleliu in the Palau Islands. A bombing attack on Manila destroyed many Japanese planes and naval craft in addition to damaging airfields and harbor installations. In this month, Finland deserted her German allies. Bulgaria also made the break and switched over to declare war against Germany.

October.—General MacArthur's forces landed on Leyte Island in the Philippines. Resistance here came from the Japanese 16th Division which was wiped out, partial retaliation for that unit's brutality to Bataan prisoners. Seeking to recover and hold

Leyte, the Japanese sent three task forces against our invasion troops. Japanese efforts here netted them the worst naval disaster they suffered thus far in the war. When General MacArthur went ashore on Leyte, the Filipinos had tangible proof of the fulfillment of his Bataan promise to return. Our troops also seized Samar Island.

On the western front in Europe, General Hodges' First Army captured Aachen (Aix-la-Chapelle), breaking through the Siegfried Line. Advanced units of Patton's Army broke into the steel ring of forts around Metz. General Patch's French and American units swung towards Bentron astride the entrance to the Bussang Pass through the Vosges. Our British allies bottled up Germany's Fifteenth Army in the Lowlands.

November.—Operating from our hard-won base in Saipan, a strong force of B-29's bombed Tokyo three times. While this was going on, Super Fortresses based on the China mainland attacked Japanese industrial centers. However, in ground fighting in China, the Japanese were able to make a strong military junction of their forces to connect north and south China.

On the western European front, having seized Metz, Gen. Patton's Third Army crossed the Saar River and extended its line. General Patch's Seventh Army captured Strassbourg and advanced towards Karlsruhe. The Belfort Gap was seized by the Allies, as were other key passages through the Vosges. Combined British and American forces crossed the Rhine in Holland. A new force, the American Ninth Army, under command of Lieut. General William H. Simpson, entered action in France and drove forward to Roerdorf and Flossdorf on the Roer River.

December.—The last month of the year witnessed particularly aggressive action on the part of the Allies on the two main fronts.

By the middle of the month, the ninth Japanese convoy, seeking to reinforce the enemy garrison on Leyte, was sunk. Ormoc was seized by the Americans and the Japanese garrison there annihilated. General MacArthur planned and executed a landing on Mindoro Island, cutting the Philippines in half and placing American troops 150 miles south of Manila. Profiting by MacArthur's bold and successful strategy, Filipinos seized large areas in Mindanao and other islands. Air raids continued against Tokyo and Nagaya, and industrial areas in the Japanese homeland area were made conscious of the fact that they could expect no respite from American attacks.

On the western front, four American armies drove into German territory. Patch's Seventh Army penetrated the Bavarian Palatinate near Karlsruhe; Hodges' First and Simpson's Ninth, operating on the Roer River line had driven into German territory beyond Aachen, and Patton's Third Army, near Saarbrucken, kept hacking holes in the Siegfried Line. In the latter part of the month, Nazi resistance stiffened and numerous counter attacks were made against our troops. These German attacks developed into a stubbornly-fought drive which spearheaded into territory formerly won by American troops. As the year closed, American forces had sharply narrowed the German corridor of attack and had pinched Nazi forces back out of a great portion of terrain they had regained. Most of the enemy drive had been against the American First Army; our Third Army swung to the assistance of the First, and the concerted action stopped the German advance.

On the Po River front in Italy, the Germans were driven from their strongly held positions in Faenza as the Allies captured that location.

SERVICE BIRTHDAYS

The Signal Corps celebrated its 81st birthday on March 3. From a complement of less than 100 men in 1863, the Corps has grown to a strength of approximately twice the peacetime strength of the Regular Army. Funds for the operation of the Corps in 1944 totaled $5,500,000,000.

Army Service Forces marked its

second birthday on March 9. At that time, statistics were released to show the work of the Force in a 12-month period: $1,476,000,000 paid to more than 3,000,000 family allowance accounts; 746,000,000 pieces of mail and 2,200,000 sacks of parcels sent overseas; more than 25,000,000 tons of supplies and equipment shipped abroad; more than 1,500,000 troops and other passengers transported overseas; 3,850,000 patients given medical attention in Army hospitals; 1,800,000 radio messages handled to overseas destinations; Army Post Exchange business totaling $81,000,000; in posts, camps, and stations, and in overseas theaters of operations, 1,350,000 religious services were conducted; 17,500 pieces of real estate were under lease at an annual rental of $53,000,000; Civil Service employees to the number of 500,000 were classified and 100,000 supervisors were trained in job instruction.

The United States Fourteenth Air Force in China celebrated its first birthday on March 9. This unit, born of the famous "Flying Tigers," was warmly greeted on its anniversary by its famous commander, General Claire L. Chennault. Among other things he said: "We have defended against a far more numerous enemy almost the entire area of Free China. When the enemy has attacked, we have taught him how it feels to suffer loss of six, seven, eight, or even nine for one."

The Army Air Force marked its second anniversary, as one of the major components of the Army, March 9. In those two years it more than quadrupled the personnel of the old Army Air Corps, and its personnel engaged the enemy on every battle front, achieving air superiority in every theater of war. The total Army Air Force strength is greater to-day than the entire A.E.F. in 1918, plus the peacetime strength of the Army and the Navy.

The Eleventh Air Force, heroes of the Aleutians and Alaska, celebrated April 14 as its fourth anniversary. Flirting daily with the calendar vagaries of the International Date Line, this unit in the spring flew the longest over-water combat mission ever recorded.

The Women's Army Corps reached its second birthday on May 14. Originally organized as an Auxiliary, it is now an actual part of the Army. Speaking to the WAC, Lieut. General Lesley J. McNair, later killed on a European battlefield, said: "At our training camps in this country and at headquarters overseas, they have lived up to the highest standards of the good soldier. We count those who have been assigned to the Army Ground Forces as our own and look upon them as essential members of our organization."

Air Transport Command celebrated its third birthday on May 28. At the beginning of 1944, the Command operated over a chain of routes stretching some 110,000 miles. In ferrying operations it flew 29,000,000 miles in April and 20,000,000 miles in transport operations in March. This Command also returns sick and wounded military personnel from theaters of operations, as well as affording air transportation of patients between hospitals in the continental United States. In three years, the Command's two officers grew to 20,000; its four enlisted men to 88,000; its one clerk to 20,000 civilian employees on the domestic staff alone.

Army Engineers celebrated their 169th birthday on June 16. Founded in 1775 when Congress authorized the appointment of Louis le Begue du Portail of the French Army Engineers as Chief Engineer of the Revolutionary Army, it has grown into a tremendous organization which can be found at work over the face of the globe. The Engineers are in the port rehabilitation business—Naples and Cherbourg; they are in the fuel gas generating business; they wreck bridges to impede the enemy and they build them to assist the advance of our own troops; they are in the camouflage business; they make maps and operate public utilities; they build roads, as witness the Alaska Highway and the Ledo Road. In the words of GI Joe, "Give the Engineers enough bulldozers and they'll move the whole earth," this would seem to be not too far removed in thought from Archimedes' original leverage proposition!

The Quartermaster Corps was another celebrant of a 169th birthday, June 16. When the Corps was founded, The Quartermaster General received a salary of $80 a month and his Deputy, $40 a month. Now the Major General head of the Corps has under him a total of 425,000 officers and enlisted men and about 65,000 civilians. From the ruin of Bataan and Corregidor was born the expression, "The Fighting Quartermasters," earned when the Corps members not only kept supplies moving to the beleagured forces, but fought and died side by side with the trapped infantry and artillery.

The Office of Dependency Benefits celebrated its second anniversary on June 23. On that date it issued its 81,644,751st check. In September, 1942, 36,000 checks totaling $4,500,000 were disbursed—in June of the past year 6,000,000 checks amounting to $362,794,485 were disbursed to Army families. In two years of existence its business multiplied 200-fold.

The Office of The Judge Advocate General, another oldster, celebrated its 169th birthday on July 29. From a peacetime officer strength of 104, this Office has expanded to nearly 2,000. During the fiscal year 1943-44, action was taken on 43,148 claims, of which 25,304 were approved in a total sum of $3,464,810.

Army Chaplains, granted their first formal recognition in the armed services on July 29, 1775, celebrated their 169th anniversary. The Chaplains Corps, however, dates only from 1920. In the present war, 24 Chaplains have been killed in battle or have died of wounds.

The Corps of Military Police celebrated its third anniversary on Sept. 26. In the First World War, men were assigned to military police duty just as they were assigned to any other extra duty. Now, carefully chosen men are assigned to the Corps, are given training, given a permanent status, and the enlisted men of the Army are taught to look upon them as friends and counselors.

SOLDIER VOTING

In February, the War Department instructed all commanding officers to bring to the attention of their men that primary elections would be held in April in Illinois, Nebraska, and Pennsylvania, and that a general election for state officials would be held that same month in Louisiana. Every facility was to be afforded soldiers from these states to exercise their state franchise, even though they were absent from the polls. For the primaries during May in Alabama, California, Florida, Indiana, Maryland, New Jersey, North Carolina, Ohio, Oregon, South Dakota, and West Virginia, similar arrangements were made.

Early in April, the United States War Ballot Commission, formed under Public Law 277, which was the new Federal servicemen voting law, met to formulate plans "to assist and encourage service men to exercise their voting privilege so far as is practicable and compatible with military operations." Secretary of War Stimson headed this Commission.

The following states had primaries scheduled for June and July and every effort was made to have service men vote by mail: Georgia, Idaho, Iowa, Maine, Michigan, Minnesota, Mississippi, North Dakota, Oklahoma, and Washington. Other state primaries were similarly handled as their dates were announced.

For the National elections, Secretary Stimson's Commission ordered printed 37,500,000 post-card applications for soldier balloting—31,000,000 for the Army; 6,000,000 for the Navy; the remainder for the War Shipping Administration. By July, the governors of 20 states certified that laws of their states authorized use of Federal ballots for absentee voting by service men overseas, while governors of the other 28 states announced that their laws did not authorize such balloting.

THE DOG SERVICE

M-dogs, the elite of the Army K-9 Corps, were used successfully to locate deadly antipersonnel mines and booby traps. As they located these death-dealing devices planted by the enemy, the dogs either led the way around them or pointed out a safe path through them. The dogs were also trained to indicate areas free of such material. These four-footed detectives were especially valuable in locating non-metallic mines. When properly trained, nothing can induce an M-dog to advance over any mine or trap.

Before being sent back to owners who loaned them for war services, dogs which had been trained to attack persons and to perform other war service, will be reprocessed in order to adjust them to peacetime, civilian contacts. Owners will receive certificates reading, "The War Dog, 'Bowser' Tatoo No. 000, having served with the Armed Forces of the United States of America, is hereby awarded this certificate of faithful and honorable discharge."

MAIL

In January, the War Department announced that, since the first contingents of American troops left the United States shortly after the Pearl Harbor disaster, more than 1,020,000,000 pieces of mail had been sent overseas to American soldiers. The Army Postal Service, starting with a skeleton organization, has grown into a world-wide system staffed with experienced officer and enlisted personnel. Approximately 25,000,000 pieces of mail leave the United States to go overseas every week and, of this amount, V-Mail letters constitute nearly 50 per cent. Current record volume of overseas Army mail is five times greater than that attained during the peak of the First World War.

The Normandy invasion put the mail system to a severe test. However, in less than a month's time after June 6, the Department was able to announce that ". . . mail began moving between England and the beachheads in France within a short time following the initial landings," and "mail is now [July 3, 1944] moving from the Normandy front on a basis comparable with the movement between other overseas combat areas and the United States."

The Army Postal Service made two interesting public announcements in November. The release was announced of some 400,000 individual letters and a large number of parcels which had been impounded for security reasons because they had originated with units now engaged in American Army operations in the Philippines. These letters, written months previously, were held by Army censorship at points in the Central Pacific and in Hawaii in order that no inkling of the invasion of the Philippines might be conveyed to anyone receiving letters in the interim period. The other Postal Service announcement stated that approximately 50,000,000 individual Christmas packages had been sent to American troops overseas in the holiday mailing period, Sept. 15-Oct. 15. Distribution of this mail abroad employed every conceivable type of Army transportation ranging from dog teams in the Arctic to camels in the African desert, and from special parachutes to amphibious ducks, jeeps, and trucks.

AIR FORCE

A-26 Invader.—The Air Forces brought out its newest and fastest all-purpose bomber, named the A-26 Invader. This ship was designed to carry an extremely flexible selection of machine guns, cannon, bombs, and fuel, to make it adaptable to almost any combat situation. It is a twin-engined Douglas plane, designed specifically for either low or medium altitude operations against enemy aircraft on the ground, tanks and troops on the march or in bivouac, towns harboring enemy troops, antiaircraft emplacements, supply dumps, wharves, and naval vessels.

Brest.—This strongly fortified German position in France was knocked out on Sept. 19, after four weeks of fighting in which air units had a major share in the ultimate victory. More than 3,000 sorties were flown over the besieged area in 25 days, dropping more than 1,000 tons of bombs and hundreds of rocket charges. In four rings of forts the Germans had 50,000 first class troops, living in deep, underground emplacements. When our three attack divisions struck the outer ring of forts, aerial cover was furnished by fighter bombers to enable the infantry to seize Hill 69. Kergonant was captured next with the assistance of P-47's who softened up enemy positions by steady bombing. Modern coordination of tactical planning made it possible to utilize close air support in the same manner as direct support artillery is used. Infantry soldiers learned to take cover close to the target during preliminary air bombardment, and, when the bomb strafing ceased, rush in and capture enemy fortress garrisons before they could reorganize to oppose ground attack. At Toulbrock on Sept. 3, one of our Ranger Battalions reached the fort six minutes after the last air bomb was dropped.

Japan.—The B-29's made many attacks on the Japanese homeland. On Armistice Day, a large task force of B-29 aircraft dropped bombs on Omura on Kyushu Island and at Nanking and Shanghai on the Yangtze River.

Sulu Sea.—The 13th Army Air Force engaged about a third of the Japanese Philippine fleet in the Battle of the Sulu Sea, damaging two battleships and sinking a cruiser. Long Rangers and Bomber Barons of the Force by their surprise attack prevented reinforcement of the scattered and badly beaten Japanese fleet which was threatening American major operations in the Philippines.

Hungary.—Out of a raid over Hungary came one of the most dramatic air incidents. A B-17 of the 15th Air Force was virtually cut in half by exploding flak which killed the two waist gunners. An entire side of the bomber was blasted open and the rear section was smashed out of line. The 21-year-old pilot decided to try to get back to his base, 600 miles away. His equally young navigator plotted the safest course that could be figured. Arriving over his base after hours of flying, the pilot came in for a crash landing, made it, just as his crippled bomber collapsed into two sections.

Twenty-first Bomber Command.—This new air task force, under command of Brigadier General Heywood S. Hansell, Jr., struck at strategical industrial targets in the city of Tokyo on Nov. 24. This mission was mounted from bases on Saipan in the Marianas. The Musashino airplane plant and many other targets were hit and serious damage was inflicted. Five days later, the Command flew its first night mission, using the Saipan-based B-29's. Bombing was accomplished through the use of precision instruments but results could not be observed because of cloud cover. On Dec. 3, Hansell's Command returned to Tokyo for its fourth attack upon industrial objectives in the Japanese capital. On Dec. 8, General Hansell's Bomber Command struck heavily at Japanese military installations on the island of Iwo Jima, about 750 miles north of the Saipan base. This raid was also through heavy clouds. Five days later, in clear weather, the Command struck at Nagoya, home of the Mitsubishi Aircraft Plant in a daylight raid. Much damage was observed from many fires started by our bombing.

Fourteenth Air Force.—On a single afternoon late in November, this Force, in China, shot down five Japanese bombers and 11 fighters; destroyed four bombers on the ground; blew up a locomotive; destroyed a trainload of gasoline; shot up three railroad cars crammed with Japanese troops; strafed a 60-foot gunboat; and damaged a motor launch.

Twentieth Bomber Command.—This unit, commanded by Major General LeMay, was especially active against Japanese targets, particularly in the closing weeks of the year. On Dec. 7, military targets near Mukden in Japanese-dominated Manchuria were bombed with excellent results, since 26 Japanese fighter aircraft were destroyed, 13 probably destroyed, and 24 damaged. The best score this Command had achieved previously was on Nov. 21 in its mission to Omura when 20 enemy planes were destroyed, 19 probably destroyed, and 22 others damaged. On Dec. 13, the Command, from its base in India, struck at targets in Japanese-dominated Thailand, bombing military transportation centers in Bangkok and in Rangoon (Burma).

Fifteenth Air Force.—In the year following the creation of this Force (Nov. 1, 1943), it flew 150,000,000 miles in more than 150,000 sorties against enemy targets in 12 countries. It is estimated to have destroyed 3,660 enemy aircraft in combat and more than 2,000 planes on the ground.

Twelfth Air Force.—In the 15 months since the invasion of Italy, this Force flew 223,896 pilot sorties and 550,673 combat hours, dropping an aggregate of 127,371 tons of bombs. Principal targets of this Force were railroads, troop concentrations, highways and bridges, ports, bases, and supply dumps.

Utilization of Captured Bombs.—Fighter-bombers and bombers in the Pacific area made good use of captured Japanese bombs. The 60's were particularly useful since they corresponded to our 100-pound general purpose bombs. Using special fuses and boosters hastily made by the U. S. Ordnance Department, hundreds of captured bombs were launched against enemy targets.

Picking Up Men on Ground.—Experiments in picking a human being off the ground by an airplane in full flight have now demonstrated that this is practicable. The first man, 1st Lieut. Alexis Doster, was lifted from the ground Sept. 15, 1943; two more were picked up on Sept. 23, 1944, and the fourth man on Oct. 7, 1944.

Performance Resumé.—On the third anniversary of our entry into war, the Army Air Force reviewed its achievements for the three-year period. A total of 1,566,329 planes had been dispatched to drop 1,202,139 tons of bombs on enemy targets. A total of 22,894 enemy aircraft were destroyed, 5,986 probably destroyed, and 8,068 damaged in aerial combat. The number destroyed on the ground totaled 6,422 with 667 probably destroyed and 3,214 damaged. American Air Force losses for the three-year period were 8,279 aircraft destroyed in aerial combat, 270 destroyed on the ground, and 4,942 by antiaircraft fire. In the Pacific area, under our bombing, the Japanese lost in this three-year period 1,310,006 tons of shipping sunk, 614,011 tons probably sunk, and 1,392,219 tons damaged. Our air crew combat personnel suffered, in the same period, 86,580 battle casualties, including dead, wounded, missing, prisoners of war, and sick. Our Air Force struck the enemy with its millionth ton of bombs on Sept. 28, 1944 and rounded out 1,500,000 combat sorties on Nov. 18, 1944. The present aircraft strength of the Army Air Force is approximately 75,000.

WOMEN IN WAR

Five nurses, first women in our Army killed as a direct result of enemy fire in this war, lost their lives through enemy bombing of field hospitals on the Anzio beachhead on Feb. 7 and 10, 1944.

For heroism during action on the Fifth Army's Anzio-Nettuno beachhead in Italy, three officers of the Army Nurse Corps were awarded the Silver Star, the first women in the history of the United States Army to receive that decoration.

In May, authorized strength of the Army Nurse Corps was set at 50,000, the actual appointment of nurses to be determined by the needs of the Army in relation to casualties.

For wounds received as a result of enemy action in Italy, eight officers of the Army Nurse Corps were awarded the Purple Heart decoration.

Late in April, nine officers of the Army Nurse Corps, coming from hospital duty in Assam, India, became the first Army nurses to be assigned to hospital units in China.

June 5, the War Department announced the appointment of seven members of the WAC as Warrant Officers, junior grade, the first women to hold that grade in the Army. Later in June, the Department opened enlistment in the WAC to more than 300 American women in England.

This on-the-spot enlistment policy was adopted at the request of General Eisenhower because of the many requests he had received from American women living abroad.

In July, a group of three officers and 239 enlisted women, representing 40 states of the Union, reported abroad as the first WAC contingent for duty in the Middle East Theater.

Private First Class Mary Jane Ford of the WAC was awarded the Soldier's Medal for heroic, though unavailing, efforts she made to save the life of a drowning soldier at Camp McCoy, Wisconsin. She was the second woman of the Corps to receive the medal (Private Margaret Maloney was the first, the previous year, when she dragged a soldier from a gasoline fire in North Africa).

Under authority of Public Law No. 350, June 22, 1944, President Roosevelt issued an Executive Order making 40,000 Army nurses officers of the Army, the first time such status was given them since the Corps was founded in 1901.

The United States School of Military Government at Charlottesville, Va. admitted four WAC officers for a Far Eastern Civil Affairs class beginning July 31. This was the first time such privilege was accorded to women.

In August the War Department announced that 330 civilian women pilots had completed the special WASP Training Course in Orlando, Fla.

1st Sergeant Virginia M. Rosekrans, the first woman to attain that grade, returned from Europe in August to enter officer candidate school at Fort Oglethorpe, Georgia.

The first Transportation Corps WAC group to be sent overseas as a unit arrived in Paris in October. They were selected for exacting and highly confidential office work in connection with overseas troop movements and vital shipment of Army supplies.

The Army Air Forces paid tribute to the WASPS in a ceremony at Avenger Field, Sweetwater, Tex., on Dec. 7. Since there was every indication that sufficient male pilots would be available, it was decided to inactivate the WASP program on Dec. 20.

In mid-December the first contingent of U. S. Army hostesses ever to be sent to an active theater of war arrived in Paris and Brussels. With an equal number of British Army hostesses they began operation of recreational clubs for enlisted troops of Allied nations at the Grand Hotel in Paris and the Metropole Hotel in Brussels.

FOOD AND EQUIPMENT

The Quartermaster Corps arranged to import 30,000 tons of Mexican onions for our armed services. These were planned to cover needs for about three months, February to May, when the early domestic crop would be due for market.

American soldiers in the European theater of operations were issued a new wool field jacket, made of olive drab serge, suitable for wear in combat or for dress.

The familiar "C" ration for soldiers was changed to increase meat units from three to seven so that meat units now include meat and beans; meat and vegetable stew; meat and spaghetti; ham, eggs, and potatoes; beef and noodles; meat and rice; and frankfurters and beans.

About two-thirds of the nation's total output of chewing gum went to the Army. For the last nine months of the year, the Quartermaster General estimated that the Army would need 3,133,319,000 sticks.

In the first quarter of the year the Quartermaster Corps effected a savings of $20,772,000 through the sale of scrap metal, bones, grease, and garbage. A new item in 1944 was "selected edible hog garbage" sold to hog raisers.

Learning that the soldier must have fabric of greater resistance for jungle clothing, insect nets, and sleeping bags, the War Department contracted for 28,000,000 square yards of nylon products to be delivered before the end of the year.

In August, it was announced that, for the remainder of the calendar year, practically all pure soluble (powdered) coffee and soluble coffee products produced in the United States would be bought for our uniformed forces. This would amount approximately to 15,000,000 pounds.

Making use of various chemicals at controlled temperatures, soldier laundrying was successfully accomplished by using salt water instead of fresh water. On ocean voyages this saves linen and fresh water.

In commenting on supply problems, Lieut. General Brehon Sommervell, commanding the Army Service Forces, wrote that "The supplies required per man moved overseas have increased from one ton in the last war to five tons in this war; one soldier's continuing maintenance requires one ton per month compared with a half ton per month in 1917-18 . . . the Army Service Forces not only met the needs of the United States forces, but also furnished enormous quantities of military supplies to the United Kingdom, and completely equipped and continued to supply a large French army . . ."

MEDICAL SERVICE

Surgery.—The Army now has approximately 4,000 Flight Surgeons and Aviation Medical Examiners. The mission of these surgeons is to maintain the physical and mental fitness of the combat fliers of the Army Air Forces. They are on the flying lines when the squadron leaves on a mission; they are there when the mission returns to provide emergency medical care if needed.

The Army has taken surgery to the front lines to give prompt, expert treatment to wounded men. Known as Auxiliary Surgical Groups, these men and women collaborate with evacuation hospitals, often only a short distance from the fighting lines. They are available for duty when and where needed, are burdened with no routine medical duties, and are not attached to any particular organization.

"Reparative Surgery."—It is believed that a new medical conception, "reparative surgery," will revolutionize treatment of wounded soldiers. Fostered by the Chief Surgeon in the Mediterranean Theater of Operations, these new techniques aim at prevention of infection or its elimination at the period of infection. Penicillin, sulfa drugs, blood plasma, and whole blood aid physicians in this fight speedily to return increasingly large numbers of wounded soldiers to active duty as well as to reduce deformity and disability among the seriously wounded.

Dentistry.—Since the outbreak of war, Army dentists have had more than 15,935,000 dental cases. Since Pearl Harbor, more than 1,075,000 dentures have been furnished, and Army personnel have had more than 31,142,000 teeth filled. Technicians manufactured 56,000 bridges, made 220,000 denture repairs, and there were 3,235,000 prophylactic and pyorrhea treatments given.

Physiotherapy.—One of our hospital units on the Ledo Road built a physiotherapy clinic out of makeshift materials. A crate fitted with a centered electric light provided a dry heat box; a cavalry stirrup fitted with ropes and weights made an exercising device for atrophied muscles; a Chinese officer donated a bicycle for leg exercises; the rubber core of a soft ball was used for hand and finger exercises; and empty gasoline drums were rigged as water heaters.

Cerebrospinal meningitis mortality rate was reduced from the Civil War 93.2 per cent to less than 3 per cent. This achievement was won through the Army doctor's use of small doses of sulfadiazine.

"Sick Inn" at Assam.—Five Flight surgeons and eight enlisted technicians established "Sick Inn" in a tea planter's cottage at the Air Commando base in Assam not far from Japanese lines, but 200 miles from the nearest Army general hospital. Somewhere in size between a dispensary and a hospital, this unit brought hospital-type care right into the front lines. Thousands of casualties were evacuated through this little organization whose personnel could treat the sick and fly an out-going plane with equal facility.

Reconditioning of Patients.—The

War Department in August announced a program designed to prepare neuropsychiatric patients to take their proper place in civil life. Schedules of treatment included physical reconditioning along with occupational, educational, and recreational therapy.

Infantile Paralysis Incident.—A young lieutenant, stricken with infantile paralysis in a mountainous region of western China was kept alive by artificial respiration for 14 days until he could be evacuated by air to a hospital in Calcutta, India, a distance over 1,000 miles. Flying through weather that had grounded all other planes in the area, a major from the 14th Air Force flew his small plane through to the India hospital, using one hand for the controls while he pumped oxygen with the other hand to keep his ailing passenger alive.

Tropical Diseases.—A special treatment center for malaria and other tropical diseases was established at the Moore General Hospital, Swannanoa, North Carolina. Particular attention is to be paid to treatment of and prevention for malaria and filariasis.

Blood Transportation.—Cooperation between the American Red Cross and the Air Transport Command made possible the shipment of whole blood without employing any special refrigerating unit. A sample cargo of six quarts of blood was sent to an Air terminal in Great Britain, without refrigeration or special handling; held there for a few days in warehouses under ordinary conditions; then, reshipped to Walter Reed General Hospital where it was tested and found to be in perfect condition.

Tetanus.—The Surgeon General of the Army announced that tetanus, a serious and often fatal disease, has been virtually eliminated from the Army. No Army man who took the compulsory immunization treatment has developed tetanus to date.

PRISONERS

On Dec. 1, the War Department announced that there were the following enemy prisoners held in the United States: German, 305,648; Italian, 51,156; and Japanese, 2,443. These prisoners were held at 130 base camps and 295 branch camps located in all sections of the United States.

MISCELLANEOUS SERVICE ITEMS

Defense Bonds, to the amount of $30,000,000, were purchased monthly by soldiers during the year.

Railroads were released from government possession and operation at midnight, Jan. 18, 1944, the labor difficulties having been settled.

"Snoop Troop," a mechanized Cavalry troop in the 3d Infantry Division, served for four months in front-line action during day and night sorties without a single death.

Rotation of troops from overseas areas to the homeland accounted for the return to the United States of more than 200,000 troops, exclusive of sick and wounded.

Blinded servicemen, those whose misfortune is the result of their service in the armed forces, are to be kept as members of the Army, Navy, or Marine Corps until they have been adjusted to take their places in society.

Parachutes, attached to a crippled B-24, served as brakes and halted a shell-riddled bomber making an emergency landing on a fighter strip on Tarawa.

Laundry facilities built by American Army Engineers on the edge of the jungle in Assam, India, supplied clean clothes, hospital sheets, and towels to soldiers building the Ledo Road through India and Burma.

Tin Scrap to the amount of 7,000,000 pounds per month was sent to the detinning companies as part of the national campaign to conserve critical war materials.

Cost of feeding a soldier is now 59 cents a day. The soldier's items of equipment cost less than in the preceding year and maintenance costs for clothing and personal equipment likewise dropped. To maintain an average soldier in continental United States during his first year of service costs $215.35 for food; $173.70 for clothing; $44.70 for individual equipment; and $31.31 for his barrack equipment.

Tire Maintenance Program, organized by the Army three years ago with one civilian tire specialist, now has 500 workers. A year's work accounted for reconditioning of 520,975 tires.

V-Mail letter No. 1,000,000 from the United Kingdom to the United States was mailed in London, Sunday, May 21, by General Eisenhower to General George C. Marshall.

Cherbourg experienced two invasions, the first a mission directed at the destruction of the enemy, the second an invasion by our Engineer Corps soldiers with a mission of construction so that the port might efficiently serve future Allied needs. As at Naples previously, a thoroughly workmanlike job was done in record time.

Evacuation of wounded was speeded by building of "unit-type" hospital cars. This type will eventually replace the "ward cars" and the "medical dining cars" since the "unit car" is just what its name denotes, a unified assembly capable of meeting every demand for hospital transportation and care of wounded men.

Hydroponics, a system of raising green vegetables in water with the aid of chemicals, will be the means of providing fresh vegetables for U. S. Army Air Force personnel living on barren atolls and ocean islands.

Red Ball Highway was the giant loop used to feed one-way traffic of thousands of loaded trucks to European battlefield front lines in Normandy; empties rolling back swiftly in a continuous stream for more cargo. It was the Army's answer to the question of how to keep supply up with the advance of ground troops when they had broken through the German lines.

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NAVAL CONSTRUCTION AND EQUIPMENT

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GENERAL

The size of the United States Fleet almost doubled between December 1943 and December 1944. There are now estimated 11,700,000 displacement tons of naval vessels of all types. New construction of vessels of all types numbered about 40,000 in 1944 compared with 24,000 in 1943. The big addition to the fleet in numbers of ships was the number one program at the beginning of the year—landing craft. The value of landing craft deliveries more than doubled in 1944 compared to deliveries in 1943. The value of landing craft deliveries in the peak month—May, 1944—was three times the value delivered in January, and twice the value of deliveries at the end of 1944.

The submarine program, in terms of keels laid and work in progress, reached its peak in April, 1944. Past work on the submarine program showed up in the value of deliveries which increased about 40 per cent in 1944 over 1943.

Construction of transports, both by the Navy and the Maritime Commission, showed tremendous strides in 1944, the value of work completed being three and one-half times that of 1943.

The year 1944 saw the tapering off of the destroyer-escort program. This was one of the very urgent programs in 1943 when the German submarine menace was still to be conquered. The value of work done on this program declined to less than one third of 1943 output.

With the substantial increase in the size of the fleet of 1944, it was only natural that naval ordnance production should show great gains. Production of naval guns and rockets increased about 40 per cent in 1944 compared to 1943. Navy anti-aircraft and dual-purpose guns increased almost 80 per cent. Percentagewise, large caliber naval surface fire showed the greatest gain. Production in terms of dollar value was more than two and one-half times 1943 output.

Ammunition for naval guns, being an expendable item, showed even larger increases. All ammunition for naval guns over 20mm increased 58 per cent over 1943 output. Ammunition for naval surface fire also showed a large increase which more than doubled the 1943 production.

Another large item in the Navy program in 1944 was the provision for ship maintenance and repair. The outlays for this item, a critical program, increased almost 50 per cent in 1944 when compared with 1943.

UNITED STATES NAVAL PRODUCTION

On Dec. 29, 1944 the Navy Department released a most comprehensive report regarding the production record for the United States Navy during 1944 and for several previous years. This report indicated that as of Jan. 1, 1945, the Navy will have 61,045 vessels on hand with which to meet and defeat the enemy. The great majority of these vessels—more than 54,000—are landing craft and assault ships, vessels designed to land American troops on enemy beaches.

The shipbuilding figures used in the following compilation represent ship completions for the years 1942 and 1943, and the 1944 figures represent ship commissionings. The 1944 figures are actuals for Jan. 1 through Nov. 30 and estimates for Dec. 1944.

SHIPS

In 1944, 39,971 new vessels were built for the Navy. Of these, 420 were combatant ships, 640 were patrol and mine craft, 630 were auxiliaries, 37,724 were landing craft, and 557 were district craft. They aggregated 5,457,490 tons, and brought the Navy's present fleet tonnage to 11,707,000 tons. They brought the total number of combatant ships to 1,167, more than three times the number on hand when the United States entered the war three years ago.

The ship completion record of the past four years is as follows:

	1941	1942	1943	1944
Combatants	33	141	568	420
Patrol and Mine Craft	167	743	1,106	640
Auxiliaries	83	184	303	630
Landing Craft	1,035	9,488	21,525	37,724
District Craft	261	786	677	557
Total	1,579	11,342	24,179	39,971

Expressed in tonnage, the record is as follows:

	1941	1942	1943	1944
Combatants	150,214	525,295	1,582,004	1,313,497
Patrol and Mine Craft	49,170	160,126	253,649	234,071
Auxiliaries	528,105	579,097	714,911	2,213,861
Landing Craft	7,790	230,386	793,531	1,519,894
District Craft	49,929	102,850	212,808	176,167
Total	785,208	1,597,754	3,556,903	5,457,490

Important in these statistics is the slightly decreased emphasis on combat and patrol craft, denoting a levelling off in the need for more warships and escort vessels, and the tremendous increase in landing craft, auxiliary attack ships, and other supply vessels which have carried the Allied offensive to enemy shores, both in Europe and the Pacific.

By types of combatant ships the building record is as follows:

	1941	1942	1943	1944
Battleships	2	4	2	2
Aircraft Carriers	1	1	15	8
Aircraft Carriers, Escort	2	13	50	37
Battle Cruisers	0	0	0	2
Heavy Cruisers	0	0	4	2
Light Cruisers	1	8	7	11
Destroyers	16	81	128	84
Destroyer Escorts	0	0	306	197
Submarines	11	34	56	77
Total	33	141	568	420

Combatant shipbuilding, in tonnage, follows:

	1941	1942	1943	1944
Battleships	70,000	140,000	90,000	90,000
Aircraft Carriers	19,800	27,100	261,600	216,800
Aircraft Carriers, Escort	13,336	94,321	380,213	262,295
Battle Cruisers	—	—	—	55,000
Heavy Cruisers	—	—	54,400	27,200
Light Cruisers	6,000	68,000	62,000	106,000
Destroyers	26,080	143,990	255,810	180,150
Destroyer Escorts	—	—	392,525	258,550
Submarines	14,998	51,884	85,456	117,502
Total	150,214	525,295	1,582,004	1,313,497

The number of vessels on hand to continue offensive operations and the yearly growth of this fleet, follow:

	Jan. 1, 1941	Jan. 1, 1942	Jan. 1, 1943	Jan. 1, 1944	Jan. 1, 1945
Combatants	322	347	436	876	1,167
Patrol and Mine Craft	103	246	859	1,617	1,853
Auxiliaries	158	239	399	658	1,348
Landing Craft	123	1,106	8,174	23,842	54,206
District Craft	494	735	1,432	2,065	2,471
Total	1,200	2,673	11,300	29,058	61,045

The growth of the Navy in tonnage follows:

(In thousands of tons)

	Jan. 1, 1941	Jan. 1, 1942	Jan. 1, 1943	Jan. 1, 1944	Jan. 1, 1945
Combatants	1,252	1,359	1,707	2,921	3,893
Patrol and Mine Craft	73	120	251	392	566
Auxiliaries	591	1,093	1,548	2,253	4,597
Landing Craft	1	8	163	740	2,058
District Craft	67	114	208	425	593
Total	1,984	2,694	3,877	6,731	11,707

Ship losses in action, and the transfer of certain vessels, especially escort carriers, destroyer escorts, and landing craft to other Allied nations, account for the difference between the total number of new ships completed for the Navy and the total on hand.

From Jan. 1, 1942, through Nov. 30, 1944, approximately $26,657,000,000 has been spent for the construction, repair, and maintenance of Naval vessels, about 40 per cent of the Navy's total expenditures during that period.

AIRCRAFT

The Navy has on hand for use approximately 37,000 aircraft of all types, the size at which the Navy is stabilizing its air power. To acquire this modern, hard-hitting combat force, the following numbers of aircraft have been produced for and accepted by the Navy:

	1941	1942	1943	1944
Tactical combat	1,593	5,584	16,371	26,401
Tactical non-combat	146	389	833	1,278
Training	1,898	3,718	5,627	1,782
Miscellaneous	1	17	313	609
Total	3,638	9,708	23,144	30,070

These figures demonstrate the high rate of obsolescence and attrition attendant upon keeping Naval air power supplied with the newest and best planes. To maintain the scale of present Pacific Naval Air Operations, production of vitally needed new planes must continue at top speed.

In 1944 alone, the cost of these new planes was $2,952,725,000, of which more than $2,700,000,000 was spent for tactical combat planes. This sum is more than four times that spent for all aircraft in 1942. Since Jan. 1, 1942, it has cost nearly $11,500,000,000 to procure and maintain the planes for Naval Aviation.

ORDNANCE

In the past three years, the Navy has spent nearly $6,000,000,000 for the shells, torpedoes, and ammunition which put teeth into our ships and aircraft. This total expenditure represents almost an annual doubling in the cost and quantity of fleet firepower, from approximately $800,000,000 in 1942 to $1,800,000,000 in 1943 and $2,800,000,000 in 1944. Notable elements in this increase have been the expanding production of rockets and certain types of fire control equipment.

A cost breakdown of certain 1944 expenditures, in comparison with the cost statistics of the previous two years, gives some measure of the production effort needed to keep the fleet in shooting trim.

Within these categories are some pertinent statistics which point the way to future production requirements. Measured in cost figures, the production of 40mm gun mounts in 1944 was ten times greater than in 1942, with a similar increase in the production of all types of 40mm ammunition. The manufacture of certain types of bombs has ceased completely, while several new types only began to go into production in 1944. The manufacture of one type of gun sight was increased by 420 per cent from 1942 to 1944.

	1942	1943	1944
Guns and gun mounts	$363,971,000	$636,079,000	$ 921,508,000
Fire Control (incl. aviation)	85,690,000	238,546,000	311,112,000
Ammunition	250,577,000	718,512,000	1,066,663,000
Torpedoes (all types)	42,600,000	145,488,000	240,406,000
Bombs	57,039,000	50,578,000	67,000,000
Rockets	309,000	9,726,000	97,764,000

APPROPRIATIONS AND EXPENDITURES

The production picture outlined has been a tremendous and costly program. Since Jan. 1, 1942, $66,682,000,000 has been paid out by the Navy for the materials of war, including the expanse of training and outfitting the men and women who man the Navy. The value of material inspected and accepted by the Navy in 1944 was ten times greater than the 1941 value, but behind this excellent record are other statistics which point out clearly the production job that lies ahead. Congress has appropriated $105,647,000,000 for Naval war needs since July 1, 1940. In addition to the $66,682,000,000 already spent, present commitments total $26,675,000,000. The remaining $12,290,000,000 is for Naval needs already anticipated, projects which have been approved so that the Navy can carry out proposed operations.

PLANS FOR 1945

Operational plans for 1945 have been based on estimates of the real production capacity of Navy suppliers; however, even these realistic schedules are not being achieved in a number of critical and essential items, largely because of manpower shortages, and a high labor turnover in certain areas. This situation has caused delivery lags in a wide variety of categories, from packaging machinery and oxygen therapy suits to aircraft carriers and spare parts.

On the critical list for 1945 at the present time are: carriers and cruisers, some of which have been delayed by labor shortage as much as seven to nine months; rockets, with a combination of soaring demand and a need for more workers; high capacity ammunition and 40mm guns, for which requirements are steadily increasing; maintenance and repair parts for the fleet, airplanes and advance bases vitally important to keep our battle fleets in fighting trim; aircraft, especially certain new types; dry cells, radar, wire and wire rope. Approximately 25,000,000 feet of wire rope needed in the first three months of 1945 will not be available until June or later, unless more workers are obtained for the producing plants.

As important as any of these is the severely critical manpower shortage in many shipyards. At a time when it is absolutely essential that every available Naval vessel be in battle readiness, the return of battle-damaged ships to the fleet is being delayed because there is a shortage of workers. In addition, many ships long overdue for overhaul are still operating in the Pacific because adequate repair and maintenance facilities are not available. The Navy estimates that, by December, 1945, about 132,000 more workers will be needed for repair work alone, primarily in West Coast shipyards.

THE TYPE SHIPS OF THE NAVY

In Admiral Ernest J. King's report on "Our Navy at War," which covered combat operations up to March 1, 1944, the development of the various demands for increasing the strength of the fleet was freely discussed for the first time during this war. Admiral King, in his discussion on the "fighting strength" of "The Wartime Navy" included a comprehensive review of theNavy's construction program and the various types of ships which made up this program. Immediately after the passage of the Two-Ocean Navy Bill, July 19, 1940, contracts for new construction were let, and there were soon more warships and auxiliaries on the ways than had ever been under construction anywhere in the world at any one time. Simultaneously with this new construction, the conversion of merchant ships was being accomplished, one of the most important of these being the escort carriers which later proved so effective in combatting the German submarine campaign in the Atlantic. It is interesting to note that the conversion of these ships was superimposed upon the shipbuilding effort following enactment of the Two-Ocean Navy Bill, it having been long appreciated that sea-borne aircraft would play a dominant role in overseas campaigns if and when war came.

With a construction program well under way, it was most important to keep alterations in design at a minimum in order to avoid delays. Nevertheless, changes which would increase military effectiveness or give greater protection to crews were not sacrificed for the sake of speeding up construction. Another consideration which industry had to take in its stride was the evolution of strategic plans and changes in the type of operations which made it necessary, from time to time, to shift the emphasis in construction from one type of ship to another. For example, when the war began our carrier strength was such that we could not stand much attrition. When, therefore, we suffered the loss of four of our largest aircraft carriers in the Coral Sea engagement, at Midway, and in the South Pacific, it was imperative that the construction of vessels of this category be pushed ahead at all possible speed. Shortly after we suffered the heavy loss in battleship strength at Pearl Harbor, our battleships under construction at the time were given top priority. At another stage of the war, when the submarine situation in the Atlantic was a matter of great concern, emphasis was placed upon escort carriers and destroyer escort vessels. At the moment, major emphasis rests with the construction of landing craft, because we intend to use them in large numbers in future operations.

In order to obtain a properly balanced navy the construction of combatant ships was supplemented by building patrol vessels, mine craft, landing craft, and auxiliary vessels of all types. Some 55 building yards, and yacht basins, located in practically all areas of the United States served by navigable waters have participated in the patrol craft construction program.

BATTLESHIPS

At the beginning of the program ten battleships were under construction. By the time Pearl Harbor was attacked only two, the *North Carolina* and the *Washington,* were in service, but since that time, six more have joined the fleet. These include the *South Dakota* and three sister ships, the *Indiana, Massachusetts,* and *Alabama,* and two of a larger class, the *Iowa* and the *New Jersey.* A third ship in the latter class, the *Wisconsin,* was launched Dec. 7, 1943, appropriately enough, two years to the day after Pearl Harbor was attacked. In speed, in fire power, particularly antiaircraft fire, in maneuverability, and in protection, these ships represent a great advance over previous designs.

AIRCRAFT CARRIERS

Construction of aircraft carriers represents one of the most spectacular phases of the naval shipbuilding program. The carrier strength of the Navy on Dec. 7, 1941 was seven first-line vessels and one escort carrier, a converted merchant ship. Contracts had been placed for several large carriers of the new *Essex* class, and some of these had been laid down. Conversion of a number of merchant vessels was under way. The pressing need to add to our striking power in the air and to replace losses suffered in the Pacific during 1942, led to a great expansion of the construction program for first-line carriers. Concurrently, an even larger expansion of the escort carrier program was undertaken. By the end of 1943, more than 50 carriers of all types had been put into service in our Navy, and in addition a large number of escort carriers had been transferred to Great Britain.

This remarkable record in construction enabled us in a single year to build up our carrier strength from the low point reached in the autumn of 1942, when the *Saratoga,* the *Enterprise,* and the *Ranger* were the only ships of our fleet carrier forces remaining afloat, to a position of clear superiority in this category. The rapidity with which new carriers of various types were put into service in 1943, influenced naval operations in many important respects. Availability of several ships of the *Essex* class and of a considerable number of smaller carriers, completed months ahead of schedule, contributed to the success of our operations in the southwest Pacific, aided materially in checking the submarine menace in the Atlantic, and enabled us to launch an offensive in the central Pacific before the end of the year.

A large proportion of the *Essex* class carriers have joined the fleet. Excellent progress is being made on construction of the remaining ships in the original program and of the additional vessels in this class authorized after the Pearl Harbor attack. Nearly all of the carriers of the *Independence* class, converted from light cruisers, have been completed. These ships, though smaller than the *Essex* class vessels, are first-line carriers. It is planned to supplement these two basic types of carriers with a third, substantially larger than any of our present classes, which will displace 45,000 tons, and will be capable of handling bombing planes larger than any which heretofore have operated from the decks of aircraft carriers. They will be far more heavily armed than smaller carriers and will be much less vulnerable to bomb and torpedo attack.

The Navy's first escort carrier was the *Long Island,* converted early in 1941, from the merchant vessel *Mormacmail.* When experiments with this ship proved successful, a sizable conversion program was initiated, using Maritime Commission C-3 hulls, and a number of oilers. In 1942, because of pressing need, this program was greatly expanded.

The "baby flat-tops" have three principal uses. They serve as antisubmarine escorts for convoys; as aircraft transports, delivering assembled aircraft to strategic areas; as combatant carriers to supplement the main air striking force of the fleet. Although their cruising speeds are lower than those of our first-line carriers, these auxiliary carriers can be turned out more rapidly and at a fraction of the cost of conventional carriers. These ships have proved invaluable in performing convoy escort and other duties for which larger and faster carriers are not needed.

CRUISERS

The *Baltimore* class heavy cruisers, a number of which are now in service, were designed during the period from July 19, 1940 to Dec. 7, 1941. These cruisers are considered as powerful as any heavy cruisers afloat, particularly as recent technical developments have made it possible to improve their fighting characteristics. The *Cleveland* type of light cruiser (a development of the *Brooklyn* class) was approved for a large part of the cruiser program, its design having been completed just before the expansion was authorized. The design of the large *Alaska* class was the result of a series of studies commenced when treaty limitations went by the board and we were no longer bound by any limitations on the size of ships.

DESTROYERS AND DESTROYER ESCORTS

The *Fletcher* class of destroyers designed just after the outbreak of the war in Europe in 1939, formed a large part of the new destroyer building program. As compared with earlier destroyers, they are larger and have greatly increased fighting power, made possible by the same technical developments that permitted similar improvements in our cruisers.

Destroyer production has been highly satisfactory, and it has been possible to expand and accelerate this part of the program in an orderly manner. Although some new yards were engaged in building destroyers, the increases were made possible by expanding facilities in yards which had had experience in destroyer construction. An idea of the acceleration in the rate of delivery of destroyers may be had by comparison with the figures for 1941 and 1943. In 1943, the rate was approximately eight times that of 1941.

Contracts for the first destroyer escorts were let in November, 1941. In January, 1942, the program was increased, and as Germany stepped up the construction of U-boats several more increases were found necessary. Because of priorities, the commencement of a large building program was delayed, but after delivery of the first vessel of the class, in February, 1943, mass production methods became effective in the 17 building yards concerned. The result was a phenomenal output of those very useful vessels.

SUBMARINES

As a result of the orderly progress which had been made in the construction of submarines involving continuous trial under service conditions, the main problem to be solved in building more submarines was the expansion of facilities. For a period of 15 years or more, there were only three yards in the United States with the equipment and the know-how to build submarines. These were the Navy yards at Portsmouth, New Hampshire, and Mare Island, California, and the Electric Boat Company at Groton, Connecticut.

In addition to the expansion that took place at these yards, two other yards went into the production of submarines. One of these was the Cramp Shipbuilding Corporation of Philadelphia, and the other was the Manitowoc Shipbuilding Company at Manitowoc, Wisconsin. The building at the latter yard is a further testimonial to the ingenuity displayed throughout the entire program, in that submarines are built at Manitowoc, tested in the Great Lakes, then taken through the Chicago drainage canal, and down the Mississippi River to New Orleans, where they are made ready for sea.

LANDING CRAFT

One of the most important achievements has been the landing craft construction program. Although the Navy had begun to experiment with small landing craft in 1936, we had only a few thousand tons in this category when we entered the war. In 1942, a billion dollar program for the construction of landing craft was superimposed on the already heavy building schedule, and the work was given top priority until the desired quota was filled. The facilities of existing public and private shipyards were given part of the burden. New yards were constructed, many of them in the Mississippi Valley, where bridge building and steel-working companies which had had no previous experience in shipbuilding put up new plants and swung into production. In the second half of 1942, almost 250,000 tons of landing craft were produced, and the figure increased to well over a third of a million tons for the first half of 1943.

This production included a tremendous variety of vessels from small rubber boats to tank landing ships more than 300 feet in length. Within this range are small craft designed to carry only a few men, and ships with a capacity of 200, tracked craft capable of crawling over coral reefs or up beaches, craft for landing tanks or vehicles, craft for landing guns, craft for giving close fire support—in fact, all types necessary for success in that most difficult of military operations, landing on a hostile shore.

PATROL CRAFT

As previously stated, patrol vessels were necessary to a properly balanced Navy. The first group of patrol craft, whose design was developed before the war, was completed in 1943. Motor torpedo boats, which have been employed to good advantage in several different theaters, were produced at intervals in accordance with military requirements. The classification "Patrol Craft" includes the 110-foot subchaser and the 136-, 173- and 184-foot steel vessels. The greatest emphasis on this type of ship prevailed prior to and during the German submarine offensive off our Atlantic Coast and in the Caribbean.

WAR PRODUCTION IN 1944

By Blake Ozias

Executive Director, Division of Information, War Production Board

NEW HIGH RECORD PRODUCTION

The year 1944 was a year of new highs in many segments of the war production program. On a dollar value basis, overall production of munitions reached a new high of $63,700,000,000, an increase of 12 per cent over the $56,900,000,000 produced in 1943.

AIRCRAFT

Of the major categories of munitions production, the aircraft production program showed the largest gain over 1943 production—38 per cent. So far as production of planes alone were concerned, December 1944 ended the greatest plane year in United States history. During the year, 96,356 planes were accepted compared to 85,930 planes accepted in 1943, an increase of 12 per cent. Much more important, however, than the increase in numbers of planes was the increase in the airframe weight of 1944 plane production compared to 1943. The 965,581,000 pounds of airframe weight accepted (excluding spare parts) underscores the trend toward bigger and more powerful models which typified the 1944 program. In 1943, 657,371,000 pounds of airframe weight were accepted. Thus 1944 registered a 47 per cent increase over 1943 in terms of airframe weight. Monthly production of planes hit its all-time high in March, when 9,111 planes rolled off the assembly line.

The subsequent decrease in the number of planes accepted each month only serves to emphasize the fact that it is the heavier planes which are the needed ones, especially the long range bombers such as the B-29 Superfortress, the B-32 Dominator; also the large transport planes, such as the C-54 Skymaster and the C-46 Commando. The year 1944 was not only notable for quantity of output but also for quality. In 1942 and 1943, the pressure to get planes out of plants and into battle was so great that only the most essential tactical improvements were incorporated in fighters, bombers, and transports. In 1944, however, the program reached the point where the Army and Navy could afford to concentrate on quality at the expense of quantity, and all tactical improvements became production-line "musts."

AMMUNITION

Ammunition is another major category of munitions production which showed a substantial increase in output in 1944 compared with 1943. At $6,750,000,000, this program increased 12 per cent over 1943 production. Ground artillery ammunition increased 67 per cent. The important heavy ground artillery ammunition program for guns over 105mm. doubled 1943 output in 1944. Aerial bombs output increased 41 per cent, with the gain largely accounted for by increased production of fragmentation and incendiary bombs. Not only did the many new fronts upon which our armies were engaged require more and more ammunition, but also the increased tempo of the war in the Pacific called for increases in naval ammunition. Ammunition for naval guns for all types over 20mm. increased 58 per cent in 1944 over 1943 production. For the large naval surface fire guns, over 105mm., production of ammunition was 2.7 times production in 1943.

COMBAT AND MOTOR VEHICLES

Not all the major categories of munitions production registered gains over 1943 output in 1944. Combat and motor vehicles as a whole decreased 17 per cent from 1943 output. Production of tanks, which falls in this category, went down from a high of 29,000 in 1943 to 17,000 in 1944. However, the Army has called for new models with greater fire power, and these new tanks must be turned out at quantity rates at the same time that present models continue to come off the assembly lines in sufficient quantities. The number of heavy-heavy trucks produced in 1944, a critical program since the beginning of the year, increased 35 per cent over 1943 output. Military requirements, however, called for an even larger increase.

GUNS AND FIRE CONTROL

The category guns and fire control decreased from the $3,700,000,000 produced in 1943 to $3,300,000,000 in 1944. This overall decrease does not mean that new highs were not reached in many of the items included in this category. For instance, the naval gun program, 20mm and over, showed an increase of 39 per cent in 1944 over output in 1943. The important heavy ground artillery program (over 105 mm.), showed an increase of 75 per cent over 1943 production.

SHIP PRODUCTION

At the same time that production of weapons for our Army and Navy was increasing, our naval power and our ability to supply our many fronts was being maintained. The size of the United States fleet (exclusive of sinkings) almost doubled between December 1943 and December 1944. There are now 12,400,000 displacement tons of naval vessels of all types. During 1944, 3,250,000 displacement tons of naval vessels were delivered compared to 2,610,000 delivered in 1944. In addition the Maritime Commission delivered over 16,000,000 deadweight tons of merchant and military type vessels. This tonnage was a decline from the deliveries in 1943 which amounted to more than 19,000,000 deadweight tons.

The big addition to the fleet in numbers of ships was the number one program at the beginning of the year —landing craft. The value of landing craft deliveries more than doubled in 1944 compared with deliveries in 1943. The value of landing craft deliveries in the peak month—May, 1944—was three times the value delivered in January of 1944 and twice the rate of deliveries at the end of the year.

The submarine program in terms of construction-put-in-place reached its peak in April, 1944 and for the year the increase was four per cent over 1943 work-done. Past work on the submarine program showed up, however, in the value of deliveries, which increased 41 per cent in 1944 over 1943.

Construction of transports both by the Navy and Maritime Commission showed tremendous strides in 1944. The value of work done in 1944 was three and one-half times that in 1943. The value of deliveries of transports on the other hand showed an even greater increase in 1944. Deliveries in 1944 were more than seven and one-half times 1943 deliveries.

Another large item in the Navy program in 1944 was the provision for ship maintenance and repair. The outlays for this item, a critical and sharply expanding program, increased almost 50 per cent in 1944 over outlays in 1943.

CUTBACK AND RECONVERSION PROBLEMS

Although the volume of munitions production was at a new peak in 1944, there was, up until the fall of the year, more concern over the problems created by cutbacks in the military programs and the resultant general problems of reconversion than one would expect to be associated with such a production achievement. In a maturing production program where the production problem was no longer one of producing all munitions items at the greatest possible rate but selected items necessary for the prosecution of the war, it was inevitable that cutbacks should occur in some segments of the program while new contracts were let for other items. It was the cutbacks which this situation created and the easier supply-demand situation for steel, aluminum, and copper at the beginning of 1944 which brought to the fore the problems of reconversion. By the last months of 1944, the perspective on the urgency of a solution to the problems of disposal of surplus materials, government-owned industrial facilities, contract termination procedures, the magnitude of the munitions program after the defeat of Germany, the relaxation and gradual elimination of L and M orders controlling materials, and the resumption of civilian production had changed with the changed military situation. However, although it was continually stressed and is now evident that reconversion is not around the corner, it was necessary during the first half of 1944 to establish an orderly procedure to deal with the cutbacks which occurred in the munitions program in order to fill in the gaps they created with other war contracts or to provide for essential civilian production where war production was not available.

To deal with the first problem, cutbacks and the necessary replacement of cancelled contracts with new contracts, the Production Executive Committee Staff was formed with representatives of the Army, Navy, Maritime Commission, War Production Board, and the War Manpower Commission. While the two-front war continues, the PEC will be concerned chiefly with filling in cutback facilities with war production. When the war in Europe ends, its main function will be to dovetail civilian production into cutbacks in the munitions program.

To deal with the second problem, facilities which have been partially or wholly released from war production, the four pre-reconversion orders were put into effect at the end of July and the beginning of August. These orders authorized manufacturers to build working models of post-war items up to a value of $25,000 per plant per month. They also authorized the placing of unrated orders to acquire machine tools and other machinery necessary to peacetime production. Another order in the series relaxed the restrictions on the use of aluminum incorporated in other L and M orders. Finally, under the spot authorization order, War Production Board field offices were authorized to permit civilian production within specified limits in any area where manpower, materials, and facilities were not needed for war production. Spot authorization is a stop-gap measure designed to fill in the period before victory in Europe when cutbacks in some military programs and changes in others release workers, materials, and facilities for the production of civilian type products. The type of product manufactured must fulfill only one requirement: that its manufacture will not interfere with war production.

NEW GENERAL PROGRAM ORDER

The military situation had so changed by the end of 1944 that a new General Program Order was put into effect by the War Production Board. This policy determination set forth that in general, no civilian production calling for firm allotments of controlled materials or the use of assigned priority ratings in production will be approved at a level higher than that authorized in the fourth quarter of 1944 except upon positive demonstration that the higher level is essential to maintenance of war-supporting activity in the civilian economy and will not interfere with more critical war production. The stringency of this order was occasioned by the problems which the sudden rise in military requirements produced for guns, ammunition, heavy trucks, and other items on the critical production list. The number one problem faced in trying to meet these new increases in military requirements was the manpower shortage in industrial areas. It was necessary, therefore, to rule out civilian-type production in these areas, except under the spot authorization law, but even here a 90-day suspension of virtually all new spot authorizations in 126 industrial cities has been ordered.

Thus, while 1944 opened with a big swing toward reconversion planning, it ended on a definitely military note of all-out production on the list of critically needed items in the war program. With the 1945 munitions program already scheduled at almost the volume of the 1944 output, continued high levels of war production was the first concern of all at the end of 1944.

LUMBER CONTROLS

In 1944, the chief difficulties in materials arose in the "non-controlled materials"; that is materials not controlled under CMP. These "noncontrolled" materials are, of course, under a variety of controls of all degrees.

Chief of the tight materials in this group was lumber. Lumber, in fact, has been put under controls comparable to CMP. The Requirements Committee allocates the lumber for large consumers after screening their specific requests. Ever since the beginning of 1942, lumber consumption has been running ahead of production. Stocks at the beginning of 1941 and 1942 were over 17,000,000,000 board feet. By the middle of 1944, stocks had fallen to around 4,000,000,000 board feet. Consumption is estimated at nearly 35,000,000,000 board feet annually, against a supply of 34,000,000,000 board feet. The major difficulty in increasing production has been manpower. Another difficulty has been the acute shortage of equipment to clear trails and haul logs. The heavy trucks and tractors that lumbering needs are just the type urgently needed by the Armed Forces. To help improve the manpower situation, logging and lumbering have been put on the Production Urgency list by the Production Executive Committee.

PAPER

Paper, too, was one of the tight spots in 1944. One of the principle reasons for the increased demand for paper and paperboard products has been the rise in direct and indirect military requirements, especially requirements for paperboard. Although production of paper and paperboard has been maintained at levels not far below the 1941 peak, total production has fallen short of potential demands. This has resulted in close limitation and allocation control which has been in effect for the last two years. During the year, WPB has put into effect several measures to improve the pulpwood supply, such as an increase in ceiling prices in certain areas, stimulation of production for farm wood lots, assignment of war prisoners, recruitment of workers from Canada and Central America, and methods for relieving the shortages of trucks for handling wood, and replacement parts for those trucks.

As a result of this paper shortage, waste materials, particularly waste paper, have become increasingly important in the manufacture of paper. To increase the supply of this critical material, the wastepaper salvage campaign has been revised and has been vigorously pushed.

TEXTILES

The number one critical program in textiles is cotton duck for the Army tent program. Replacement needs in combat zones have almost doubled stated requirements.

On the civilian side of textile production, it is low-priced cotton finished products that are short. This problem was taken in hand by the Textile, Clothing, and Leather Bureau of WPB, the WPB Office of Civilian Requirements, and the Office of Price Administration in order to get textile mills to weave types of cloth most needed and to have manufacturers of wearing apparel and household lines make the types of products civilians buy. As a result a production allocation and channeling plan was put into effect. The WPB's Office of Civilian Requirements decided what products were short and what fabrics were needed for their manufacture. The War Production Board then issued some directives to step up production, and allocated the cloth and yarns to OCR programs. OCR, in turn, made the fabrics available to those manufacturers who agreed to make the low-priced items which were in short supply.

The cotton textile shortage is expected to continue even after V-E Day. Demand has risen sharply owing to increased civilian purchasing power and military requirements—783,000,000 linear yards in the fourth quarter of 1944 compared with a quarterly average of 550,000,000 yards in the first half of 1944. In addition, there has been a serious decline in production. In spite of the 48-hour week and the establishment of a production-urgency rating to channel available labor, 1944 output probably did not exceed 9,900,000,000 yards (excluding woven tire cord). Thus 1944 output probably fell seven per cent under 1943 output, and 12 per cent below 1942. The reason for this drop in output is a correspondingly steady drop in employment and the high turnover rate.

LEATHER

The tight situation in leather is not so much a question of a lack of leather in the raw as of increasing demands upon output by the military. Month by month the output of hides in this country is becoming the largest in history, but military demands have increased as the tempo of the war in Europe has increased. Military footwear also takes more leather per shoe than civilian. Imports of hides, especially goat and kid skins, 99 per cent of which are normally imported, are now running 14 per cent below the pre-war average with no immediate improvement indicated. Thus, the outlook for more civilian footwear is not encouraging.

CHEMICALS

The large caliber ammunition program, a "must" program from the middle of 1944 and into 1945, has had its repercussions in the demands made upon chemicals. The supply of sulphuric acid, the most widely used basic chemical, is expected to report a record breaking total of 10,400,000 tons in 1944, 15 per cent more than in 1943, but requirements will total 900,000 tons more than the industry is expected to deliver. As a result, sulphuric acid has been recently put under nationwide allocation, and a new construction program has been started.

Phthalic anhydride, from which the new Army insect repellent is made, is now in tight supply. In spite of increased production in 1944, this new demand for phthalic anhydride as an insectifuge in addition to requirements for plastics and for paints and varnishes for ships, tanks, and planes, caused the War Production Board to launch a new construction program at the beginning of 1944. Later in the year, as a result of battle experience, there was an increase in the demands for smokeless powder, one of the ingredients for which is phthalic anhydride.

MACHINE TOOLS

The growing demands for heavy shells and guns, rockets, and aircraft engines, among other items, reversed the machine tool situation as it existed at the end of 1943. The present increased demand is difficult to meet not because of a manpower shortage but because machine tool facilities were converted to direct war work when, at the end of 1943, the backlogs of unfilled orders on the books of tool builders were declining and new orders were continuing to fall. So it is a question of getting back into the production of machine tools, as soon as feasible, those facilities which took on direct war work.

TIRES

Requirements for all truck and bus tires have been mounting steadily, and today exceed anything previously imagined possible. The demand is so far above possible supply that it has been decided to build complete new tire plants. Meanwhile, the urgent need is to man all existing facilities and add equipment to bring present plants up to capacity production. Not only does a lack of skilled workers beset the tire program but also changes in specifications because of increasing use of synthetic rubber. Changeovers of this kind involve new methods of compounding, vulcanization, mixing, etc.; and longer curing time for synthetics reduces capacity production rates.

Large tires alone were on the critical list last August; now all sizes of tires are on the list. Every effort is being made by the War Manpower Commission, the Army, and the Navy to recruit sufficient labor to increase production. Demand for replacement tires for jeeps has also jumped. These tires are produced with the same equipment and labor as passenger tires. In order to fill the demand for jeep and small truck tires, passenger car tire production will have to be cut in early 1945.

ADMINISTRATION OF VETERANS AFFAIRS

By Frank T. Hines

Administrator, Veterans Administration

ORGANIZATION

As of June 30, 1944, the organization of the Veterans Administration consisted of the following officers: Frank T. Hines, Administrator of Veterans' Affairs; Adelbert D. Hiller, Executive Assistant to the Administrator; Harold W. Breining, Assistant Administrator in charge of finance and insurance; Omer W. Clark, Assistant Administrator in charge of compensation, pension, vocational rehabilitation and education; George E. Ijams, Assistant Administrator in charge of medical and domiciliary care, construction, and supplies; Edward E. Odom, Solicitor in charge of legal activities; and Robert L. Jarnigan, Chairman of the Board of Veterans' Appeals.

INSURANCE

The United States Government life insurance fund is a trust fund administered by the Government as trustee for the sole benefit of the policy-holders. The Government derives no profit whatever from the administration of this fund as it may be used only for the payment of claims under United States Government life insurance contracts and as dividends to the policyholders themselves. All premiums paid by the policyholders, all interest received from policy loans, investments, etc., are covered into this fund in the United States Treasury.

As of June 30, 1944, there were in force 578,621 United States Government life (converted) insurance policies aggregating $2,494,876,131 of insurance. Monthly payments averaging $35.08 were being paid to 10,774 policyholders for permanent and total disabilities. During the fiscal year ended June 30, 1944, there were approved 7,472 applications aggregating $55,434,340. The actual disbursements made from this fund during the fiscal year 1944 totaled $44,718,934.20.

Yearly renewable term insurance was granted to all veterans of World War I who made application for this form of benefit within 120 days after induction into service. The amount of term insurance was limited to $10,000 for each veteran. Monthly payments on term insurance policies are based on $5.75 per $1,000 of insurance in force at such time as award for disability or death is made. As of June 30, 1944, monthly payments were being made to 9,520 permanently and totally disabled veterans and to the beneficiaries of 3,297 deceased veterans.

Automatic insurance was granted to those veterans of World War I who were disabled or who died within 120 days after being inducted into service and before application for term insurance was made. The amount of automatic insurance was limited to $5,000. As of June 30, 1944, monthly payments were being made to 219 permanently and totally disabled veterans and to the beneficiaries of 15 deceased veterans. These payments are fixed by law at $25 per month.

The disbursements for term and automatic insurance during the fiscal year 1944 totaled $10,292,796.49 including $2,517,340.98 transferred to the United States Government Life Insurance Trust fund for cases traceable to extra hazards of military or naval service, making a net disbursement of $7,775,455.51 for term and automatic insurance.

The National Service Life Insurance Act, approved Oct. 8, 1940, authorized the issue of a new type of insurance to certain persons then in the active service of land and naval forces (including Coast Guard) and those thereafter entering on active duty, including persons inducted under the Selective Training and Service Act of 1940. The insurance was available to those persons then on active duty, and if in good health, upon application made within 120 days from the date of the approval of the act. As to those who entered service after that date, application must be made within 120 days from date of entry into service. This insurance is limited to $10,000 for each veteran and is payable only in the event of the death of the insured while the policy is in force. During the fiscal year 1944 there were approved 5,720,487 applications aggregating $48,116,446,500 of insurance. The total number of applications approved to June 30, 1944, was 15,285,575 amounting to $114,623,201,000 of insurance. Benefits had been awarded on June 30, 1944 in 63,807 cases on insurance valued at $512,468,400. The average contract insurance in force at the time of the veteran's death was $8,227.09. Widows were the sole beneficiary in 18 per cent and parents in 72 per cent of the awarded cases.

Commercial Insurance Guarantee.—An act to promote and strengthen the national defense by suspending enforcement of certain civil liabilities of certain persons serving in the military and naval establishments, including the Coast Guard, was approved Oct. 17, 1940. Article V of the act provides that the Government will, on application by the insured, guarantee to commercial insurance companies premiums on insurance carried with such companies by persons in active service. Through June 30, 1944, 94,103 applications for insurance benefits under this act had been received, of which 78,238 representing $194,207,012.90 of insurance had been approved and 13,088 representing $29,868,158.45 insurance had been disapproved.

GUARDIANSHIP

The Veterans Administration maintains supervision of all guardianship activities for incompetent veterans and minor beneficiaries. An effort has been made to utilize so far as possible the services of relatives as guardians of the person and the services of banks and trust companies as guardians of the estate of wards. As of June 30, 1944, the total guardianship load was 78,456 wards of whom 44,242 were incompetents and 34,214 minors. The value of estates of all wards approximated $157,434,444.79 on June 30, 1944.

PENSIONS AND COMPENSATION

Yellow Fever Experiments.—An act approved Feb. 28, 1929, recognized the high public service rendered by Major Walter Reed and those associated with him in the discovery of the cause and means of transmission of yellow fever. This act, in addition to establishing a roll of honor, granting medals, etc., authorized a monthly payment of $125 to each of 17 designated persons during the remainder of their lives. As of June 30, 1944, seven persons were receiving this benefit. The disbursements for this type of benefit during the fiscal year totaled $10,500.

Revolutionary War.—The last pensioner was Daniel F. Bakeman who died at Freedom, N. Y., April 5, 1869, at the age of 109 years. The last widow of a veteran to receive pension was Esther S. Damon of Plymouth County, Vermont, who died Nov. 11, 1906, at the age of 92 years.

War of 1812.—Hiram Cronk, the last veteran pensioner died May 13, 1905, at Ava, N. Y., at the age of 105 years. The last widow of a veteran to receive pension was Caroline King of Cheektowaga, New York, who died June 28, 1938, at the age of 89 years. As of June 30, 1944, the sole remaining pensioner was Esther Ann Hill Morgan, of Independence, Ore., a dependent daughter of John Hill, deceased, private in Clark's and McCumber's Companies, New York Militia. Mrs. Morgan was born March 9, 1857, and receives $20 a month by special act of Congress.

Mexican War.—This war ended May 30, 1848. The last veteran pensioner was Owen Thomas Edgar, an apprentice on board the U.S.S. *Potomac, Experiment, Pennsylvania,* and *Alleghany,* U. S. Navy, who died Sept. 3, 1929, at Washington, D. C., age 98 years. On June 30, 1944, pensions were being paid to 65 widows and one child of veterans of this war. Disbursements made during the fiscal year 1944 totaled $39,048.33.

Indian Wars.—On June ·30, 1944, pensions were being paid to 1,278 veterans. The average age of the 1,278 veterans was 82 years. Disbursements during the fiscal year 1944 totaled $994,654.96. As of June 30, 1944, pensions were being paid to the dependents of 2,885 deceased veterans. The number of dependents totaled 2,920, classified as follows: 2,860 widows, 50 children, and 10 others. Disbursements during the fiscal year 1944 totaled $1,234,566.33.

Civil War.—Out of a total of 2,213,365 that served in the Union forces in the Civil War which terminated 79 years ago, pensions were being paid to 383 veterans on June 30, 1944. The average age for this group was 98 years. Disbursements during this fiscal period totaled $546,898.88. On June 30, 1944, pensions were being paid to dependents of 27,650 deceased veterans. The dependents totaled 27,793 and were classified as follows: 25,937 widows and remarried widows, and 1,856 children. Of the 27,650 cases there were 3,717 cases in which the monthly payment was $30, 20,388 cases in which the beneficiary received $40 per month as provided by law for widows of the attained age of 70 years, 242 cases in which $50 per month was being paid to widows who were wives of veterans during their military service, 2,569 cases in which the dependents received pensions by special acts of Congress, and 734 cases in which the dependents were paid under general laws and service laws at miscellaneous rates because of the death of the veteran from causes due to military service. Disbursements during the fiscal year 1944 totaled $13,348,325.51.

Spanish American War.—On June 30, 1944, pensions were being paid to 133,408 veterans. Of this number 132,184 were receiving pensions for disabilities of nonservice origin or for age, 1,162 for service connected disabilities and 62 were special act cases. A study of the age of these pensioners shows that 91 per cent are between the ages of 60 and 75 as of the above date. Disbursements during the fiscal period amounted to $100,595,494.34. As of June 30, 1944, pensions were being paid to the dependents of 67,059 deceased veterans. The number of dependents totaled 70,811 and were classified as follows: 65,267 widows, 5,358 children, 181 parents, and five others. During the fiscal year 1944 the amount paid to these dependents totaled $24,460,404.35.

Regular Establishment.—As of June 30, 1944, the number of veterans receiving pensions as a result of disabilities incurred in service in time of peace totaled 42,895. The disbursements for this group during this period totaled $16,902,171.97. On June 30, 1944, pensions were being paid to the dependents of 13,692 deceased veterans whose death was determined to be the result of disease or injury originating in line of duty in the military or naval service in time of peace. The number of dependents receiving pensions as of June 30, 1944, totaled 20,272 consisting of 6,463 widows, 5,598 children, 8,201 parents, and 10 others. Disbursements during the fiscal year 1944 totaled $6,304,661.54.

First World War.—*Veterans, Service-connected.*—During the fiscal year 1944, the number of veterans receiving compensation for disabilities directly or presumptively connected with service totaled 337,311. An analysis of the major disabilities for which this compensation is being paid discloses that neuropsychiatric diseases are the disabling cause in 19.6 per cent of the awards, tuberculosis in 15.3 per cent, and general medical and surgical conditions in 65.1 per cent. During the fiscal year 1944, the amount of $162,466,628.74 was paid to veterans with service connected disabilities.

Veterans, Nonservice-connected.—As of June 30, 1944, pensions were being paid to 85,700 totally disabled veterans whose disabilities were not of service origin. Of the veterans on the roll 30 per cent were over 55 years of age. Disbursements during the fiscal year 1944 totaled $37,996,340.21.

Emergency, Provisional, Probationary, or Temporary Officers.—As of June 30, 1944, there were 2,607 officers entitled to retirement pay, of whom 2,492 were receiving full pay and 40 partial pay. In the remaining 75 cases, there was a complete forfeiture of retirement pay due largely to the fact that the officer was employed by the Government at a salary in excess of $3,000 per annum. Disbursements during the fiscal year 1944 totaled $4,202,834.33. Of the 2,607 officers entitled to retirement pay 2,522 served in the Army; 69 in the Navy, and 16 in the Marine Corps.

Deceased Veterans, Service-connected.—On June 30, 1944, compensation was being paid to the dependents of 87,566 veterans who died in service or as a result of diseases or injuries incurred in service. These dependents totaled 114,417 and were classified as follows: 30,581 widows, 18,244 children and 65,592 parents. Disbursements during the fiscal year 1944 totaled $52,316,597.13.

Deceased Veterans, Nonservice-connected.—An act approved June 28, 1934, as amended July 19, 1939, authorized the payment of compensation to the widows and children of deceased veterans who at the time of death were suffering from a disability of service origin but who died as a result of a disability not incurred in service. On June 30, 1944, compensation was being paid to the dependents of 26,697 such veterans. The dependents were classified as follows: 23,028 widows and 30,113 children. Disbursements during the fiscal year 1944 totaled $11,287,099.03.

Second World War.—*Living Veterans, Service-connected.*—On June 30, 1944, there were 208,519 veterans in receipt of pensions for disabilities incurred in line of duty on or after Dec. 7, 1941. The average age of these veterans was 29 with the greatest incidence of disability at 23. Disbursements to this group during the fiscal year 1944 totaled $43,102,931.69. In addition, $566,667.96 was received by this group for increased pension payments because of vocational training.

Deceased Veterans, Service-connected.—As of June 30, 1944, pensions were being paid to the dependents of 27,835 veterans who died as a result of disease or injury originating in line of duty in the military or naval service on or after Dec. 7, 1941. Pension was paid to parent or parents alone in 13,499 cases. In 12,163 cases pension was paid to widow and/or children (no parents) and in the remaining 2,173 cases to widows, and/or children, in addition to parents. Disbursements to this group during the fiscal year totaled $17,011,052.63.

Retired Officers of the Army of the United States (except regulars).—On June 30, 1944, there were 1,454 reserve officers entitled to retirement pay for service-connected disabilities as provided under Public 18, 76th Congress, approved April 3, 1939, and Public 262, 77th Congress, approved Sept. 26, 1941. In 11 cases retirement pay had been forfeited. Disbursements during the fiscal period totaled $1,554,443.46. The average age of the 1,454 officers was 37 years and 1,435 of the total had service in the Second World War.

Grand Total—Pensions and Compensation.—The following table shows the number on the rolls as of June 30, 1944, and the net disbursements during the fiscal year 1944 from the appropriations "Army and Navy Pensions."

VOCATIONAL REHABILITATION

Public No. 16, 78th Congress, approved March 24, 1941, as amended by Public No. 346, 78th Congress, June 22, 1944, provided vocational rehabilitation to any person who served in the active military or naval service at any time after Sept. 16, 1940, and prior to the termination of the Second

War	On Roll June 30, 1944	Disbursements Fiscal Year 1944
Yellow Fever Experiments—Participants	7	$ 10,500.00
War of 1812—Deceased veteran	1	240.00
Mexican War—Deceased veterans	66	39,048.33
Indian Wars—total	4,163	2,229,221.29
Living veterans	1,278	994,654.96
Deceased veterans	2,885	1,234,566.33
Civil War—total	28,033	13,895,224.39
Living veterans	383	546,898.88
Deceased veterans	27,650	13,348,325.51
Spanish American War—total	200,467	125,055,898.69
Living veterans	133,408	100,595,494.34
Deceased veterans	67,059	24,460,404.35
Regular Establishment—total	56,587	23,206,833.51
Living veterans	42,895	16,902,171.97
Deceased veterans	13,692	6,304,661.54
First World War—total	539,806	268,269,499.44
Living veterans	425,543	204,665,803.28
Service connected	337,311	162,466,628.74
Nonservice connected	85,700	37,996,340.21
Emergency officers, etc	2,532	4,202,834.33
Deceased veterans	114,263	63,603,696.16
Service connected	87,566	52,316,597.13
Nonservice connected	26,697	11,287,099.03
Second World War—total	236,354	60,680,652.28
Living veterans	208,519	43,669,599.65
Deceased veterans	27,835	17,011,052.63
Retired Officers, Army of the United States (except regulars) Living veterans	1,443	1,554,443.46
Grand total—pensions and compensation	1,066,927	494,941,561.39
Living veterans	813,469	368,929,066.54
Deceased veterans	253,451	126,001,994.85
Participants, yellow fever experiments	7	10,500.00

World War, who, (1) was honorably discharged from such service; (2) has a disability incurred in or aggravated by such service for which pension is payable or would be but for the receipt of retirement pay; and (3) is in need of vocational rehabilitation to overcome the handicap of such disability. As of June 30, 1944, there were 1,936 veterans receiving institutional training and 1,065, job training under this legislation. At the close of the year there were 69 cases in which the veteran had been rehabilitated in the employment objective for which training was given.

HOSPITALIZATION

On June 30, 1944 the Veterans Administration was operating hospital facilities at 94 locations in 45 states and the District of Columbia. The total number of beds in these facilities was 88,569, of which 73,602 were for hospital treatment and 14,967 for domiciliary care. In addition, 4,336 hospital beds in other government facilities were being utilized.

On June 30, 1944, the hospital load was 64,002 patients. Of this number 63,800 were United States veterans classified by service as follows: First World War, 44,304; Second World War, 13,707; Spanish American War, 2,865; Civil War, 10; all other wars, expeditions, and occupations, 61; and Regular Establishment, 2,853. Other hospital patients included 38 allied veterans of the First World War, and 164 miscellaneous beneficiaries. Of the 63,800 United States veterans 72.01 were receiving treatment for disabilities not of service origin. There were 60,446 United States veterans in facilities controlled by the Veterans Administration, 2,144 in other government hospitals, and 1,210 in state or civil institutions. Of the patients in hospitals June 30, 1944, 63.16 per cent were receiving treatment for neuropsychiatric diseases, 27.08 per cent for general medical and surgical conditions and 9.76 per cent for tuberculosis. Admissions during the fiscal year 1944 included 193,789 United States veterans, 135 allied veterans, 2,742 persons in active military or naval service, and 1,192 miscellaneous beneficiaries. Of the 193,789 United States veterans, admissions were authorized for 12,587 for observation and treatment of tuberculosis, 18,384 for psychotic or mental diseases, 15,882 for other neurological disorders, and 146,936 for general medical and surgical conditions.

During the fiscal year 1944, there were 251,956 United States veterans under hospitalization. Of this number, 188,156 were discharged after an average of 75.9 in-patient days. Patients who remained until the completion of treatment numbered 151,366 or 80.45 per cent of the total discharges.

Deaths in hospitals during the fiscal year totaled 15,081 of which number 70.56 per cent occurred among patients under treatment for general medical conditions, 15.26 per cent for tuberculosis, and 14.18 per cent for neuropsychiatric diseases.

DOMICILIARY CARE

At the close of the fiscal year 1944 the veteran population reported as present in domiciliary status in facilities under the control and jurisdiction of the Veterans Administration totaled 8,576. The percentage distribution of the above veteran patients by wars were: First World War, 88.28 per cent; Spanish American War, 6.51; Second World War, 2.30; other wars, expeditions and occupations, 0.17 per cent; and peacetime service in the Regular Establishment, 2.74 per cent. An analysis of the causes of disability of these veterans shows 5,265 to be general medical and surgical conditions; 3,187 neuropsychiatric diseases; and 124 tubercular ailments.

During the fiscal year 1944 there were 15,802 veterans admitted for domiciliary care. Of this number 12,909 or 82 per cent had served in the First World War and 1,269 or 8 per cent in the Spanish American War. Approximately 92 per cent of the admissions were for disabilities not of service origin. Of the veterans admitted for domiciliary care during this period 69 per cent were disabled by general medical and surgical conditions, 30 per cent by neuropsychiatric diseases and one per cent by tubercular ailments.

During the fiscal year 1944, there were 17,434 veterans discharged after an average of eight months domiciliary care. Deaths among domiciled veterans during this period totaled 61, the principal causes of which were diseases of coronary arteries and angina pectoris, diseases of the myocardium, and syphilis, which collectively were responsible for 59 per cent of the deaths.

The Federal Government is required to reimburse State or Territorial Homes for disabled soldiers at the rate of $300 per year for each person domiciled therein who is eligible for similar care in facilities controlled by the Veterans' Administration. During the fiscal year 1944 an average of 4,405 such persons was cared for in these homes, thereby creating an obligation of over $1,189,350 on the part of the Federal Government.

DENTAL AND OUT-PATIENT CARE

During the fiscal year 1944 dental care was provided 32,785 hospital patients, 5,694 domiciliary members, and 3,104 out-patients in clinics maintained by the Veterans Administration, at an actual cost of $1,222,280. During this fiscal period, 29,708 new dentures were made and 5,341 repaired in dental clinics of the Veterans Administration. Dental treatment was authorized to private practitioners for 1,088 veterans, at a cost of $57,163 during the same period.

During the fiscal year 1944, there were 1,134,338 physical examinations for out-patient purposes made in field facilities. Of these examinations 99.3 per cent were medical and 0.7 per cent dental. Treatments furnished during the year for out-patient purposes totaled 746,856 of which 92 per cent were medical and eight per cent dental.

FINANCE

The actual net disbursements from appropriations and trust funds of the

Veterans Administration (including adjustments on lapsed appropriations) during the fiscal year 1944 were as follows:

Appropriations	Disbursements
Salaries and expenses	[1]$130,588,368.15
Printing and binding	391,157.29
Hospital and domiciliary facilities and services, Veterans Administration	4,850,857.78
Army and navy pensions	494,941,561.39
Military and naval insurance (First World War)	[4]10,292,796.49
National service life insurance (Second World War)	[2]102,429,163.08
Adjusted service and dependent pay (First World War)	89,464.03
Vocational rehabilitation (First World War)	[3]−4,737.51
Vocational rehabilitation revolving fund (Second World War)	13,645.00
Military and naval family allowance (First World War)	[3]−4,047.78
Miscellaneous	[5]7,849.79
Trust funds	
U. S. Government life insurance fund	44,718,934.20
National service life insurance (Second World War)	33,897,951.37
Adjusted service certificates (First World War)	1,647,700.54
Army and navy allotments	49.00
General Post Fund	29,155.28
Funds due incompetent beneficiaries	153,847.27
Personal funds of patients, Veterans Administration	4,347,720.96
Total	$828,391,436.33

[1] Includes adjustments on lapsed appropriations—Medical and hospital services, credit of $93.00.

[2] Represents net amount transferred by voucher to National service life insurance trust fund for payment of claims traceable to the extra hazards of military or naval service.

[3] Credits to appropriations.

[4] Includes $2,517,340.98 transferred to U. S. Government Life Insurance trust fund for hazardous cases.

[5] Includes $109.50 Emergency Relief (transfers from W.P.A.) 1941-1943.

SERVICEMEN'S READJUSTMENT ACT OF 1944

(Public No. 346, 78th Congress, June 22, 1944)

The benefits available to veterans of the Second World War were materially increased by the passage of the above law, popularly called the "G.I. Bill of Rights," which provides Federal aid for readjustment in civilian life of returning veterans of this war. It is applicable in general to any veteran of the Second World War discharged under conditions other than dishonorable after service of 90 days or more, or discharged by reason of an injury or disability incurred in line of duty. Specifically, it provides educational aid to every eligible veteran without regard to his age when he entered service, for the guaranty by the Veterans Administration under certain conditions of loans for the purchase of homes, farms or business property, repairs, additions, stock, machinery, equipment, etc., for the payment of readjustment allowance to unemployed veterans or to self-employed veterans under certain conditions, and for increased aid in securing employment through the establishment of a Veterans' Placement Service Board consisting of the Administrator of Veterans' Affairs as Chairman, the Director of the Selective Service System, and the Administrator of the Federal Security Agency, or whoever may have the responsibility of administering the functions of the United States Employment Service, with an executive secretary as Chief of the Veterans' Employment Service of the United States Employment Service.

WATERWAYS AND HARBORS

By Eugene Reybold

Major General, U. S. A.; Chief of Engineers, War Department

WAR PROJECTS

Federal improvement and maintenance of rivers and harbors and other waterway channels of the United States have been prosecuted for some 120 years under the direction of the Secretary of War and the supervision of the Chief of Engineers, U. S. Army, in accordance with Congressional authorizations. In conformity with the national policy governing wartime construction in the interest of conservation of manpower, equipment, and materials, the new work program for rivers and harbors was restricted to improvements having direct importance to the war. During the fiscal year ended June 30, 1944, improvement and maintenance operations were carried out on 294 authorized navigation projects of which nine projects were fully completed. Total expenditures for the year were $64,366,001.23 of which $26,107,065.74 was for new work.

RIVER AND HARBOR IMPROVEMENTS

The principal items of new work operations during the fiscal year ended June 30, 1944, other than on canals and inland waterways, included the removal of ledge rock and other material from the Kennebec River to complete the project channel with depth of 27 feet from the mouth to the shipbuilding facilities at Bath, Me.; dredging of the 35-foot channel in Portland Harbor, Maine, and the 15-foot channel in Weymouth Back River, Massachusetts; the removal of rock from the channel at Providence Harbor, Rhode Island, below Conimicut Light and off Fields Point; and improvement of the Connecticut River below Hartford.

At New York Harbor the dredging of additional anchorage space was continued in the Liberty Island and Red Hook Anchorage areas. Deepening the center section of the Ambrose Channel to 45 feet was completed. Enlargement of the Buttermilk Channel was accomplished, and improvement of the Kill Van Kull section of New York and New Jersey channels was continued. In the Delaware River channel leading to the Philadelphia Navy Yard, the removal of rock from the westerly half of the channel, in the vicinity of Marcus Hook, was well advanced to completion.

Widening of the Sabine-Neches Waterway was finished except in the section connecting Port Arthur with the Taylors Bayou turning basin. At San Diego Harbor, California, construction of a seaplane basin and anchorage facilities was continued. Work was accomplished at Los Angeles Harbor, California, and construction of the 8,000-foot breakwater extending from Waadah Island to the westerly shore of Neah Bay, Washington, was completed.

Other inland waterway improvements during the year included the Mississippi River between the Ohio River and Minneapolis; the Ohio River; Calumet Harbor and River, Illinois, and Indiana; Indiana Harbor, Indiana; and the Illinois Waterway, Illinois.

POWER DEVELOPMENTS

The power plant at the Fort Peck Dam in Montana, with an initial generating unit of 35,000 kw, was placed in operation on July 1, 1943, the amount of power generated during the year being 197,569,900 kwh. Water of the Missouri River impounded by the completed Fort Peck Dam was released to augment the natural stream flow during low water periods to provide for navigation. Installations for the development of hydro-electric power at the Bonneville Navigation Dam on the Columbia River, Washington and Oregon, were completed with the placing in operation of the last two units, Nos. 9 and 10, during the fall and early winter of 1943, thus making the present rated capacity of 518,400 kw available. The output of energy generated during the fiscal year amounted to 3,502,610,000 kwh.

GREAT LAKES

On the Great Lakes the construction of the MacArthur Lock in the St. Marys Falls Canal at Sault Ste. Marie, Michigan, and reconstruction of the Southwest Pier and corrective dredging at the mouth of the power canal under way at the close of the previous year were completed. The work of deepening the approaches to the lock and other essential features was also carried out. Enlargement of the turning basin in Lorain Harbor, Ohio, to facilitate turning of large lake vessels was completed.

MAINTENANCE OPERATIONS

In addition to the new work outlined in the preceding paragraphs, maintenance operations were performed at important river and harbor and other waterway projects previously completed along the Atlantic, Gulf, and Pacific coasts, in the interior, and on the Great Lakes. Construction plans for a number of authorized navigation improvements were under preparation in order that work on the projects may proceed as the Congress may direct when the Department's civil works program is resumed after the war. River and harbor authorizations during the fiscal year included Public Law No. 216, 78th Congress, providing for the enlargement of the turning basin at Lorain Harbor, Ohio; and Public Law No. 279, 78th Congress, authorizing Federal maintenance of the channel extension in Cuyahoga River at Cleveland Harbor, Ohio.

INTRACOASTAL WATERWAYS

The Atlantic Intracoastal Waterway and the Gulf Intracoastal Waterway provide a protected channel for barge and other light-draft navigation following coastal sounds, bays, rivers, and artificial channels. On this canal system extending for more than 2,300 miles along the Atlantic and Gulf coasts, extensive dredging operations were carried out to provide for coastwise barge traffic carrying petroleum products and other essential commodities. A channel 12 feet or more in depth was available throughout the Atlantic coast section of the waterway from Trenton, N. J., to Jacksonville, Fla. Work was actively prosecuted on the improvement of the waterway to depth of 12 feet between Apalachee Bay, Florida, and the Mexican border, as authorized by Public Law No. 675, 77th Congress. The 12-foot channel was completed from Carrabelle, Fla. to Galveston, Tex. and was 82 per cent completed in the section between Galveston and Corpus Christi, Tex. The Gulf County Canal, Florida, connecting St. Josephs Bay with the Gulf Intracoastal Waterway was enlarged to permit its use by petroleum barges operating on the latter waterway. The work carried out during the year on the Gulf Intracoastal Waterway and tributary channels involved the removal of more than 81,000,000 cubic yards of material. The Mississippi River inland waterway system, together with the Intracoastal system which it connects at Plaquemine and New Orleans, brings barge navigation within reach of important industrial and farming centers. Other important coastal canals include the Cape Cod Canal, Massachusetts, and the Chesapeake and Delaware Canal which accommodate ocean-going vessels.

INLAND WATERWAYS

The principal inland navigable waterways of the United States include the Great Lakes, the Mississippi River system, the Illinois Waterway, the New York State Barge Canal system, the San Joaquin-Sacramento River system in California, and the Columbia River system in the Northwest. The Great Lakes have natural deep water except in the connecting channels which have been artificially deepened where necessary to accommodate deep draft vessels.

The Mississippi River Waterway

system embraces the river proper, the Red, Arkansas, Missouri, Illinois, Ohio, Tennessee, Monongahela, Allegheny and Kanawha rivers and other streams. The Mississippi River has a channel suitable for ocean-going vessels upstream to Baton Rouge, La. and thence a channel for modern barge navigation to Minneapolis and in its principal tributaries. The Illinois River and waterway to Lake Michigan has a barge channel which connects the Great Lakes with the Mississippi River system. An additional outlet from the Great Lakes to the Sea is *via* the Oswego and Erie branches of the New York State Barge Canal between Lake Ontario and the Hudson River.

The San Joaquin-Sacramento River system, which has an outlet to the sea through San Francisco Bay, provides a deep-draft channel to Stockton, Calif. on the San Joaquin River and a moderate-draft channel to Sacramento, on the Sacramento River and in addition other channel improvements. The Columbia River has a deep-draft channel to Portland, Ore. and to Vancouver, Wash. and depths suitable for commercial vessel traffic to the head of the pool formed by the Bonneville Dam and thence depths for barge navigation upstream to and including the Snake River. These systems of inland waterways were maintained and operated to provide for commerce and traffic of importance to the war, including the movement of newly-built war vessels from inland yards to the sea.

MISSISSIPPI RIVER SYSTEM

Works for the improvement of the channel of the river proper were continued during the fiscal year ended June 30, 1944 at various places below Cairo, Ill. and the levees built for flood control from Rock Island, Ill. to near Head of Passes, La. now extend from 484 miles above to 966 miles below Cairo which is at the confluence of the Mississippi and Ohio rivers. Below Cairo revetment was in place over 125 miles of river bank and 37 miles of permeable dikes were complete for bank stabilization and channel regulation. The 2,500-mile levee system now contains over 1,113,000,000 cubic yards of earth, and when completed they will aggregate about 1,264,000,000 cubic yards. The Bonnet Carre spillway structure was completed in 1931 and can be operated whenever necessary during periods of extreme high water. The Birds Point-New Madrid floodway is also complete and available for operation in the event of a flood emergency.

A navigable channel is available throughout the main river from Minneapolis to the Gulf of Mexico. Below Alton, Ill. the channel is maintained by open river works. In the 650 miles of river above Alton to Minneapolis, a system of low-head dams with locks provide a 9-foot channel depth adequate for modern barge navigation. The Ohio River and certain of its improved tributaries are also canalized to provide a 9-foot channel for barge navigation serving this highly industrialized region. The system of six locks and dams on the Ouachita and Black rivers provide depths of 6½ feet at low water, a distance of 351 miles, from the Red River to Camden, Ark. The Red River proper and the Arkansas River have been improved for light-draft navigation throughout a total length of more than 1,000 miles.

Although the authorized channel improvement of the Missouri River has not been fully completed, a navigable channel with minimum depth of 6 feet was in general available throughout the navigation season from the Mississippi River to Kansas City, Mo., with lesser depths obtaining upstream to the head of the channel improvement at Sioux City, Ia. Water impounded by the completed Fort Peck Dam was released to augment the natural stream flow during low water periods in order to provide more adequate channel depths for navigation in the Missouri River and the critical Chain of Rocks section of the Mississippi River near the mouth of the Missouri. The Fort Peck Dam, which forms a reservoir with a maximum storage capacity of 19,412,000 acre-feet, also provides considerable protection to the flood plane of the river for many miles downstream by controlling the amount of flood water passing the dam.

NATIONAL FLOOD CONTROL

General flood control legislation has provided, up to July 1, 1944, authorizations totalling $930,400,000 for the construction of nearly 500 reservoir and local protection projects throughout the United States, exclusive of the large project authorized separately for the alluvial valley of the Mississippi River.

The authorized projects are integral parts of comprehensive and coordinated plans for the beneficial development of the water resources of the United States to provide economical flood protection for a large number of populated places, many thousands of acres of rich agricultural lands, and vital lines of communication. Many of the reservoirs are suitable for utilization as multiple-purpose projects, combining flood control with hydroelectric power and other water uses.

COMPLETED PROJECTS

Construction work on the Federal program for general flood control was started in 1937, after the first funds for that purpose were appropriated by Congress. By the end of June 1944, 47 reservoirs and 112 local protection projects widely dispersed throughout the entire United States were in operation.

Projects which were under construction, when the Federal policy curtailing all public works not essential to the conduct of the war was announced, have been brought to completion or to a safe point of suspension as rapidly as possible without interference with work of direct importance to the war and with due regard to the necessity for protecting lives, the work already accomplished, and the Federal investment in that work. In many instances, construction of projects ordered suspended in accordance with Federal policies was carried to a point of completion where substantial flood protection can be obtained even though the projects will not be fully effective until the construction work is entirely completed. During the year ended June 30, 1944, dam and reservoir projects were placed in operation for flood control and other purposes at Mud Mountain, Wash.; Mosquito Creek, O.; and Youghiogheny, Penn. Local protection projects were completed at Corning, N. Y.; Huntington, W. Va.; Prattville, Ala.; East Hartford, Conn.; Mt. Holly, N. J.; Binghamton, N. Y.; Kingston-Edwardsville, Penn.; Northampton, Mass.; Newark, O.; Lawrenceburg, Ind.; and along the Lower Burbank-Western Channel, California.

NEW FLOOD CONTROL PROJECTS

The only new flood control projects initiated during the year were two projects determined to have direct value to the prosecution of the war. These were the improvement of the Vermilion River and Bayou Teche, Louisiana to provide flood protection to a large agricultural area producing food for the war program and the project for the East Peoria Levee and Drainage District, Illinois, to protect that highly industrialized area supplying vitally needed war materiel. During the year, work was continued on the Barker Dam and Reservoir project to provide partial flood protection to Houston, Tex., and on eight local protection projects located at Jeffersonville-Clarksville, Ind.; Johnstown, Penn.; Tulsa, Okla.; Hartford, Conn.; West Springfield, Mass.; Sauvie Island, Ore.; East Cape Girardeau, Ill.; Brevoort Levee, Ind.; and in a portion of the Los Angeles River Channel, California.

The authorized project for the Sacramento River and tributaries, California, is progressing as rapidly as possible in order to protect agricultural lands, communities, and principal arteries of communication carrying military supplies and equipment for the war program.

EMERGENCY REPAIRS

Under authority provided by Congress in the Act of July 12, 1943, emergency repairs were accomplished during the year on over 400 levees and other protective structures throughout the nation. The great majority of these projects were built by local people or organizations and were inadequate to withstand the disastrous floods of 1943. The emergency repair work effectively restored the protection which the flood control structures were originally designed to provide. Floods again occurred during the spring of 1944, leaving widespread destruction in their wake throughout the nation. The major portion of the damages resulting therefrom was confined to the midwestern area of the United States and especially to the lower Missouri River and upper Mississippi River valleys. Congress subsequently adopted an act on May 29, 1944 which authorized an expenditure of $12,000,000 for emergency flood control work to repair the structures damaged by those floods and to restore protection to the flood threatened areas. The work accomplished or to be accomplished under the authority of this emergency act includes the repair, restoration, and strengthening of existing levees and other flood control works.

Construction plans are being developed for the remaining portions of suspended projects and for other authorized projects not yet initiated in order that a large-scale program of construction operations may be ready for initiation upon the direction of Congress without delay at the end of the war.

PERIODICAL PUBLICATIONS

Army and Navy Journal
1701 Connecticut Ave. N.W., Washington, D. C.

Army and Navy Register
511 Eleventh Street N.W., Washington, D. C.

Army Ordnance
706 Mills Building, Washington, D. C.

Cavalry Journal
1719 K St., N.W., Washington, D. C.

Coast Artillery Journal
631 Pennsylvania Ave., N.W., Washington, D. C.

Field Artillery Journal
1218 Connecticut Ave., N.W., Washington, D. C.

Infantry Journal
1115 Seventeenth Street N.W., Washington, D. C.

Marine Corps Gazette
United States Marine Corps, Washington, D. C.

Military Engineer
808 Mills Building, Washington, D. C.

Quartermaster Review
1026 17th St. N.W., Washington, D. C.

U. S. Coast Guard Magazine
3 Church Circle, Annapolis, Md.

U. S. Navy Magazine
South and Hanover St., Pottstown, Pa.

Waterways Journal
1605 Chemical Building, St. Louis, Mo.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

SERVICE SOCIETIES

AMERICAN LEGION, THE, National Headquarters, 777 N. Meridian St., Indianapolis, Ind.

AMERICAN REMOUNT ASSN., Otis Bldg., Washington, D. C.

AMERICAN SOCIETY OF NAVAL ENGINEERS, Navy Bldg., Constitution Ave., N.W., Washington, D. C.

ARMY ORDNANCE ASSN., Mills Bldg., 17th St. and Pennsylvania Ave., Washington, D. C.

Association of Military Surgeons of the United States, Army Medical Museum, Washington, D. C.

Chemical Warfare Service, Edgewood Arsenal, Maryland.

Military Order of the Purple Heart, 815 15th St., N.W., Washington, D. C.

Navy League of the United States, Inc., Mills Bldg., Washington, D. C.

Quartermasters' Assn. of the United States, 1026 17th St., N.W., Washington, D. C.

Reserve Officers' Assn. of the United States, 2449 39th Pl., N.W., Washington, D. C.

Society of American Military Engineers, 808 Mills Bldg., Washington, D. C.

Society of Naval Architects & Marine Engineers, 29 W. 39th St., New York City.

United States Cavalry Assn., 1719 K St., N.W., Washington, D. C.

United States Field Artillery Assn., 1218 Connecticut Ave., N.W., Washington, D. C.

United States Infantry Assn., 1115 17th St., N.W., Washington, D. C.

United States Naval Institute, Annapolis, Md.

PATRIOTIC AND HEREDITARY

Colonial Dames of America, 421 E. 61st St., New York City.

Daughters of 1812, National Society, U. S., 1461 Rhode Island Ave., N.W., Washington, D. C.

General Society of Colonial Wars, P. O. Box 396, Rosemont, Pa.

General Society of Mayflower Descendants, 916 Madison Ave., Plainfield, N. J.

Military Order of Foreign Wars of the U. S., 15 Broad St., New York City.

Military Order of the Loyal Legion of the U. S., 1805 Pine Street, Philadelphia, Pa.

Military Order of the World War, 1700 Eye St., N.W., Washington, D. C.

National Security League, 45 W. 45th St., New York City.

National Society of Colonial Dames of America, 2715 Q St., N.W., Washington, D. C.

National Society of the Daughters of the American Revolution, 1720 D St., N.W., Washington, D. C.

National Society of Professional Engineers, National Press Building, Washington, D. C.

National Society of the Sons of the American Revolution, 1227 16th St., N.W., Washington, D. C.

Naval and Military Order, Spanish-American War Veterans, 184 State House, Boston, Mass.

Pilgrim Society, Pilgrim Hall, Court St., Plymouth, Mass.

Society of the Cincinnati, Inc., 2118 Mass. Ave., N.W., Washington, D. C.

Sons of Confederate Veterans, 609 Law Bldg., Richmond, Va.

Sons of Union Veterans of the Civil War, Colonial Trust Bldg., Reading, Pa.

United Confederate Veterans, 1528 Lowerline St., New Orleans, La.

United Spanish War Veterans, Inc., 40 G. St., N.E., Washington, D. C.

Veterans of Foreign Wars of the U. S., Broadway at 34th St., Kansas City, Mo.

PART FOUR
ECONOMICS AND BUSINESS

DIVISION X

BUSINESS AND FINANCE

ECONOMIC AND BUSINESS CONDITIONS

By S. S. Huebner
Professor, University of Pennsylvania

RECORD-BREAKING YEAR OCCASIONED BY WAR DEMANDS

The 1943 account explained that "1943 either maintained or exceeded the extraordinary record of 1942 along nearly all important lines, and declines were shown in only a few instances." Taking economic barometers as a whole, 1944 even exceeded 1943, and business, owing to war demands, operated at virtually full capacity. Important declines were limited to but two important indices, namely, imports and building construction. Along all other important lines the record was equal to that of 1943 or in excess.

The iron and steel industry operated throughout the year at virtually full capacity, with ingot steel production reaching a record for all time, although that record was only about 1 per cent in excess of the previous record of 1943. Railroad freight traffic was also somewhat larger than for the banner year of 1943. Revenue freight car loadings exceeded those of the previous year by 2.5 per cent, and revenue ton-mileage by 2.3 per cent. Agricultural food production showed an increase of between 2 and 3 per cent as compared with 1943, with prices throughout the year substantially the same as those prevailing at the close of 1943. For other leading commodities, taken as a whole, price changes were trivial as compared with the previous year. The automotive industry, although almost completely converted to war manufacturing purposes, operated throughout the year at full capacity and at a $10,000,000,000 yearly mark, as was also the case during 1943. Electric output was consistently high throughout the year, and approximated the total reached during 1943. Corporate dividends, as reported by the New York Stock Exchange for 666 corporations also showed a gain over 1943 of 7.2 per cent, 22 out of 28 categories of business enterprises showing an increase in their distribution to shareholders.

While most economic indices equalled or slightly exceeded the record of 1943, note should be taken of four barometric indices where the 1944 increase was very substantial. Bank clearings maintained a very high level throughout the year, and at the close exceeded those of the previous year by about 22 per cent (outside of New York City) and 38 per cent for the nation as a whole, inclusive of New York City. Exports reached the tremendous total of nearly $11,000,000,000 (first nine months), or $1,600,000,000 in excess of 1943 for the

NEW CAPITAL FLOTATION

New corporate financing (as distinguished from refunding issues) took place during 1944 on a scale more than double that of 1943, but during 1943, as explained last year, new corporate financing may be said to have almost reached the vanishing point. The total new capital financing for the first nine months of 1944 (latest available) aggregated $459,407,000, as compared with $199,680,000 and $614,069,000 for the corresponding months of 1943 and 1942, and, for the corresponding periods, with $770,161,000 for 1941, $457,513,000 for 1940, $310,737,000 for 1939, $315,947,000 for 1938, and $1,154,135,000 for 1937. Since September, judging from press accounts, the 1944 increase in new corporate financing continued at an accelerated pace during October and November. It should also be noted that a considerable monthly fluctuation in new capital flotations took place during 1944. Thus for June and September the monthly totals reached only $15,373,000 and $29,208,000, respectively, whereas for August the monthly total exceeded $105,000,000. The total of refunding issues for the first nine months of the year also showed a huge increase, the total standing at $1,362,087,000, in contrast to the corresponding figure for 1943 of $445,344,000, and for 1942 of only $296,160,000. The 1944 figure may also be compared with the corresponding figures of $1,354,000,000 for 1941 and $1,252,000,000 for 1940. Since September, judging from press accounts, the 1944 increase in bond redemptions continued at an increasing pace. According to *The New York Times,* bonds called for prematurity payment in the first 11 months of 1944 totaled $1,818,151,000, compared with $965,606,000 in the corresponding period in 1943, and $2,373,811,000 in 1941, “the nearest year in which the total was larger.”

CORPORATE FINANCING

	1943		1944	
	Capital	Refunding	Capital	Refunding
January	$ 2,798,000	$ 7,517,000	$ 37,773,000	$122,683,000
February	11,330,000	1,865,000	62,616,000	96,146,000
March	54,693,000	38,447,000	45,456,000	77,535,000
April	20,785,000	74,902,000	73,464,000	107,636,000
May	28,621,000	44,744,000	32,616,000	184,091,000
June	29,999,000	77,813,000	15,373,000	78,754,000
July	19,175,000	65,580,000	57,328,000	153,917,000
August	22,404,000	79,311,000	105,573,000	140,608,000
September	9,875,000	55,165,000	29,208,000	400,717,000
October	40,673,000	86,662,000		
November	121,033,000	69,862,000		
December	14,237,000	83,129,000		

Source: *Survey of Current Business*, November, 1944.

BANK CLEARINGS

For 1944, bank clearings very substantially exceeded the high records of 1943, 1942, and 1941. The grand total for the week ended Dec. 9 (*Commercial and Financial Chronicle*), for 110 cities, was $13,628,611,301, as compared with $9,855,867,228 for the corresponding week of 1943, an increase of 38.3 per cent. For the corresponding week of 1942 and 1941, the totals were $9,091,533,862 and $7,598,543,512, respectively. Exclusive of New York City, the nation’s Federal Reserve Districts showed total bank clearings for the week of $5,721,650,016, an increase of 22 per cent as compared with the 1943 corresponding week’s total of $4,688,968,852. The huge showing for 1944 (exclusive of New York City) also compares with $4,566,163,809 and $3,815,010,081 for the corresponding week of 1942 and 1941, respectively. The respective gains and losses for each of the 12 Federal Reserve Districts, for the

YEARLY TOTALS

	Capital	Refunding
1944*	$ 459,407,000	$1,362,087,000*
1943	375,623,000	684,997,000
1942	637,899,000	419,866,000
1941	1,040,042,000	1,552,143,000
1940	736,382,782	2,026,195,056
1939	371,249,537	1,807,623,508
1938	871,998,950	1,267,245,739
1937	1,225,012,213	1,208,679,946
1936	1,214,950,299	3,416,995,382
1935	403,569,958	1,863,858,807
1934	178,257,949	312,836,500
1933	160,717,178	220,866,478
1932	325,361,625	318,533,720
1931	1,763,448,723	825,516,700
1930	4,944,403,166	528,875,877
1929	8,649,439,560	1,386,921,569
1928	6,079,602,416	1,738,274,615
1927	5,391,008,544	1,928,187,260
1926	4,357,002,750	942,550,970
1925	4,100,725,167	637,384,524
1924	3,322,295,764	516,275,300
1923	2,702,496,155	530,343,942

* Nine months.

Source: *Commercial and Financial Chronicle.* 1941–1944 figures from *Survey of Current Business.*

week of Dec. 9, 1944, in comparison with 1943, are shown by the following table:

Federal Reserve District	1944 millions	1943 millions	Increase or Decrease %
First—Boston (12 cities)	639	404	+58.3
Second—New York (12 cities)	8,136	5,386	+51.1
Third—Philadelphia (10 cities)	828	674	+22.8
Fourth—Cleveland (7 cities)	724	631	+14.7
Fifth—Richmond (6 cities)	387	293	+32.4
Sixth—Atlanta (10 cities)	422	381	+10.8
Seventh—Chicago (17 cities)	800	622	+28.7
Eighth—St. Louis (4 cities)	362	298	+21.4
Ninth—Minneapolis (7 cities)	241	216	+11.7
Tenth—Kansas City (9 cities)	313	309	+1.2
Eleventh—Dallas (6 cities)	160	140	+14.0
Twelfth—San Francisco (10 cities)	616	502	+22.7
Grand Total (110 cities)	13,629	9,856	+38.3
Outside New York City	5,722	4,689	+22.0

SECURITY MARKETS

As was the case during 1943, the 1944 security market continued relatively inactive, and the average price level, although moderately higher than in 1943, remained at a comparatively low level. In view of the exceptional industrial activity, the large corporate earnings and dividend distributions despite high taxes, and the exceptionally favorable war news on both the European and Pacific fronts, the 1944 stock market acted contrary to current appearances. Gilt edge bonds continued to rise slightly throughout the year, showing an appreciation of 2.2 per cent, as compared with an appreciation of 4.6 per cent during 1943.

Combining all leading groups of stocks, three moderate price trends occurred during 1944, namely, (1) a practically static price level from January to March, (2) a rise of 9.3 per cent from April to July, (3) a decline of 3.1 per cent from July to September, and (4) a rise of approximately 3.2 per cent from September to the beginning of December. For the first ten months of the year, the industrial stock level increased slightly over 8.2 per cent, the railroad group by 7.3 per cent, the public utility group by 11.3 per cent, the copper and brass group (first three-quarters of the year) by slightly over 3 per cent, and a combination of all of the groups by approximately 8.2 per cent.

As was the case during 1943, participants in the 1944 stock market were obliged to balance many favorable factors with reference to the future with an equally large array of unfavorable factors. For a summary, see "The Security and Money Markets" (pp. 390-6).

RAILROAD INDUSTRY

The year 1944 showed approximately the same heavy railroad traffic that prevailed during 1943, 1942 corresponding period, a distorted situation clearly due to the exportation of war materials. New capital financing, as judged by the first three-quarters of the year, was more than double that of 1943 for the same period, namely, $459,000,000 as compared with $200,000,000. Redemption of bonds, a very favorable factor to the financial set-up of corporations, also took place at a much larger rate, the redemption for the first 11 months of 1944 reaching $1,818,000,000, as compared with $966,000,000 for the same period of the previous year, or at a rate nearly double. Commercial failures also showed a decided improvement over 1943, good as that year was in this respect. For the first nine months, the number of business failures aggregated only 980, or about one-third the number occurring during the same period for 1943, while the failure liabilities for the same period during 1944 totaled only $23,000,000 as contrasted with $37,000,000 in 1943 for the same months. It may also be stated that wages and industrial income during 1944 set an income record for all time, namely, $159,000,000,000. The U. S. Department of Commerce reported on Dec. 27 that the national income in 1944 would reach a new all-time high of about $159,000,000,000 and that this mark was expected to be the peak of the war boom. The yearly rise in national income, however, it should be explained, was only 5 per cent over 1943, as compared with an increase of 23 per cent in 1943 over 1942.

In contrast to the huge volume of business and large corporate earnings and dividend distributions, the nation's security markets showed only moderate improvement over those of the preceding year, closing prices at the end of 1944 showing an appreciation in value of only about 8.2 per cent as compared with the average closing price of the year before. All leading groups of stocks, namely, railroads, industrials, and public utilities, shared in this moderate rise, and substantially to the same extent. (See "The Security and Money Markets," pp. 390-6.) Investment bonds appreciated about 2.2 per cent during the year and remained consistently at an exceedingly high average price level. With respect to both stock and bond trading, the volume of transactions was slightly under that of 1943, although that year, stagnant as it may be described from a market standpoint, represented a doubling in the volume of share transactions as compared with 1942.

In only two important economic indices, namely, imports and building construction, as already indicated, was there a substantial decline. The results in both instances are attributable to unavoidable war conditions, namely, (1) a war-torn world that could not export normally to this country, and (2) government prohibitions directed against new construction to conserve materials for war production. Imports for the first three-quarters of the year dropped to $2,922,000,000 as compared with $3,368,000,000 for the corresponding period of 1943. Building construction, for the first ten months of the year, dropped to less than half the volume of 1943, whereas that year also showed a decline of over 50 per cent as compared with 1942.

AGRICULTURE

Compared with 1943, the 1944 crop production of the nation showed an increase of between 2 and 3 per cent. As explained for the previous year's remarkable record, this showing may again be regarded as satisfactory in view of the prevailing handicaps occasioned by the war, such as wartime controls, the difficulty of obtaining equipment, transportation difficulties, and the scarcity of farm labor. Moreover, drought or near-drought conditions also prevailed over a large east-central area of the country and materially affected the yield for such major crops as corn, hay, and potatoes. Despite all of the difficulties, it is estimated that the total volume of food production in 1944 will exceed that of 1943 by about the aforementioned 3 per cent. To quote the *Guaranty Survey* (Aug. 29, 1944):

"Total crop production this year is likely to exceed that of last year by

2 to 3 per cent and to surpass that of any previous year except 1942, according to the Department of Agriculture. Prospects for corn, hay, potatoes and some other crops have declined as a result of drought or near-drought conditions over a large east-central area; but growing conditions in most other regions have been favorable. The prospective wheat crop is the largest on record. The corn harvest is expected to fall below the very high totals for the last two years but to be far above the 1933-42 average. Other crops that promise to be larger than in 1943 are oats, tobacco, buckwheat, grain sorghums, peanuts, hops, apples, peaches, pears, pecans and sugar beets. Yields below those of last year are forecast for potatoes, barley, rye, flaxseed, rice, tame hay, dry edible beans, soybeans, sweet potatoes, sugar cane and grapes.

"The Department of Agriculture predicts that the total production of meat may attain the highest level in history, exceeding last year's output by approximately 4 per cent. Increases of 10 per cent in beef and 20 per cent in veal are forecast, with a slight rise in pork and a decline of 10 to 12 per cent in lamb and mutton."

Prices of leading farm products during 1944 showed either moderate increases or decreases along most lines, except where governmental maximum price levels were established. Thus, using closing prices for agricultural commodities, quotations on Nov. 1, 1944 (*Guaranty Survey*, Nov. 28, 1944), compared as follows with prices on the corresponding date in 1943: wheat, Chicago, per bushel, \$1.71⅞ as compared with \$1.65; corn, No. 2, yellow, Chicago, per bushel, \$1.07 as compared with \$1.07; rye, No. 2, New York, per bushel, \$1.271 as compared with \$1.308; oats, No. 2, Chicago, per bushel, \$0.69 as compared with \$0.815; and cotton, middling, New Orleans, per pound, \$0.201 as compared with \$0.186. The following additional prices may be mentioned (Babson Monthly Price Table) by way of comparison on November 1, 1944, with the same date for 1943: beans, domestic pea, cwt., \$6.85 with \$6.32; butter, creamery, ex. (92 score), pound, \$.423 with \$.423; cheese, fancy flats, held, New York State, pound, \$.310 with \$.310; eggs, mixed colors, standards, doz., \$.402 with \$.546; flour, spring std. patent, Minn., cwt., \$3.340 with \$3.2[illegible]; lard, choice Western, pound, \$.1[illegible] with \$.138; flaxseed, cash closing, Duluth, bushel, \$3.10 with \$3.05; barley, Milwaukee, bushel, \$1.23 with \$1.38; cattle, live, weekly aver., Chicago, cwt., \$16.25 with \$15.15; hogs, live, weekly aver., Chicago, cwt., \$14.65 with \$14.45; and sheep, live, weekly aver., Chicago, cwt., \$5.25 with \$5.40.

MANUFACTURING AND MINING INDUSTRIES

In these industries, where the output of products is more subject to control than in agriculture, price changes during 1944 were extremely small, chiefly because of governmental price levels. In most instances, where no maximum price had been established under government regulations, price changes represented very moderate increases. Comparing November, 1944, with the corresponding quotations for 1943, the following price comparisons may be selected from those listed in the *Guaranty Survey* (Nov. 28, 1944). (An asterisk sign is used wherever a maximum price was established under government regulations.) Coffee, 13⅜¢* per pound as compared with 13⅜¢*; copper, 11.87½¢* per pound as compared with 11.87½¢*; hides, 15½¢* per pound as compared with 15½¢*; pig iron, \$23.50* per gross ton as compared with \$23.50*; steel billets, Pittsburgh, \$34.00 per gross ton as compared with \$34.00; lead, 6.50¢* per pound as compared with 6.50¢*; petroleum, Pennsylvania, \$3.00* per barrel as compared with \$3.00*; rosin, \$5.81* per 100 lbs. as compared with \$4.10; rubber, .22½¢* as compared with .22½¢*; sugar, 3.74¢* per pound as compared with 3.74¢*; tin, 52.00¢* per pound as compared with 52.00¢*; wool, Ohio fine delaine, \$1.21* per pound as compared with \$1.21*; and zinc, 8.25¢* per pound as compared with 8.25¢*.

and 1941, described in previous issues of THE AMERICAN YEAR BOOK for those years. According to the Association of American Railroads (announcement of Nov. 25), revenue freight car loadings during the first 11 months of 1944 totaled 40,385,837, an increase of about 2.5 per cent when compared with the 1943 total of 39,331,719. For the same period of 1942 the total stood at 39,988,017.

Revenue freight car loadings, however, do not tell the whole story. Note must be taken of the fact that 1944 revenue ton-mileage, as reported for Class I railroads, increased 2.3 per cent over 1943, and that year, in turn, showed an increase in this respect of 18 per cent over 1942, while that year showed an increase over 1941 of nearly 33 per cent. The increase in revenue ton-mileage, referred to, is due to the heavier loading of cars and the longer haul per ton. It is interesting to note that the 1944 total (for the first ten months) was 2¼ times the ton-mile volume of the first ten months of 1939.

EXPORTS AND IMPORTS

As explained last year, probably no other business barometer shows the effect of war conditions so noticeably as the statistical record of exports and imports. As was the case then, the tremendous volume of exports is traceable to huge shipments abroad of war materials and lend lease commodities. Exports of merchandise for the first nine months of 1944 (latest available, *Survey of Current Business*), reached the tremendous total of $10,741,746,000. This figure compares with exports of merchandise for the first nine months of 1943 of $9,107,368,000, and with annual totals of $4,022,000,000 for 1940, $3,177,000,000 for 1939, $3,094,000,000 for 1938, $3,349,000,000 for 1937, and $5,241,000,000 for the record peace year of 1929.

By way of striking contrast, imports of general merchandise for the first nine months of 1944 totaled only $2,922,906,000, as compared with $2,448,908,000 for the corresponding period of 1943, and with annual totals of $2,626,000,000 for 1940, $2,318,000,000 for 1939, $1,960,000,000 for 1938, $3,084,000,000 for 1937, and $4,399,000,000 for the record peace year of 1929. The enormous difference between exports and imports in 1944 ($7,819,000,000 for the first nine months of the year) clearly indicates abnormal conditions arising out of the war. It is noteworthy that shipments abroad were so large as to make the 1944 exports for the first nine months ($10,742,000,000) more than twice as great as the total exports for the banner peace year of 1929 ($5,241,000,000).

AUTOMOTIVE INDUSTRY

With respect to this important industry, the 1943 account explained (1) the Government's pressure to convert the full resources of the industry into an armament-producing industry, (2) the Government's prohibition of the sale of new passenger automobiles and light trucks, and (3) that the huge decline in the manufacture of passenger cars and trucks, owing to government demands, did not mean a corresponding decline in the industry's total manufacturing output. Instead, the industry's current production of war weapons of all kinds during 1942 was at an annual rate of $5,400,000,000 or 32 per cent ahead of the average rate of production of non-military items in 1941, and that year represented the peak of annual peacetime production in the industry. During 1943 the war production of automotive plants reached the $10,000,000,000 yearly mark, a production fully maintained during 1944. Moreover, the cost of war products, despite the large aggregate dollar value, has been greatly reduced. Both of the outstanding tendencies—huge production and lowered cost—were maintained during 1944. Unfortunately exact figures of production for 1944 seem not to be published, but *Automotive War Production* (issue of November) reports that production has been maintained at the full 1943 level, and that the industry's "output of fighting equipment is being maintained at a $1,000,000-an-hour level." The same publication (issue of April) also announces enormous price reductions, as, for example, Liberator bombers now selling at $137,000 as compared with $238,000 two years ago, light tanks reduced from $45,000 to $22,564, machine guns from $510 to $200 at present, and a reduction of 34 per cent since 1940 in the cost of engines for swift fighter planes.

IRON AND STEEL OPERATIONS

During 1944, the iron and steel business showed operations, as was also the case during 1943 and 1942, at virtually full capacity, owing mainly to war demands. Steel ingot production reached a record for all time, for the first ten months of the year, of 74,777,771 net tons, but this total was only 0.77 per cent above the 74,209,247 tons produced during the corresponding 1943 period, the previous high mark. According to reports for October, 1944, the American Iron and Steel Institute placed the operating rate of steel companies at 95.1 per cent of the estimated steel capacity of the country, compared with 93.4 per cent one month previously, and with a wartime peak of 101.2 per cent in October, 1943.

For each of the first ten months of 1944, the monthly production exceeded 7,000,000 tons, and varied closely from a minimum of 7,188,674 to a maximum of 7,820,226 tons. The 1943 account outlined the current pessimistic reports concerning the future prospects of the industry, because of unnecessary newly created capacity, cutbacks, renegotiations, and surplus goods disposal. These predictions, however, failed to materialize during 1944. Output in October was 7,578,304 tons, but slightly less than the 1943 October figure of 7,814,117 tons, the peak production for any month thus far in the steel industry's history. According to the American Iron and Steel Institute, payrolls in the steel industry in September, 1944, amounted to $142,209,500, with an average of 565,200 employed, as compared with $143,768,900 and 619,785 employees in September, 1943.

ELECTRIC OUTPUT

According to the Edison Electric Institute, the production of electricity by the electric light and power industry of the United States totaled 4,524,000,000 kwh for the week ended Dec. 2, 1944. This output was approximately the same as that of the corresponding week of 1943 (namely, 4,560,000,000 kwh, or a falling off of 0.8 per cent). During the two months preceding Dec. 2, the weekly output for 1944 was consistently slightly under that of 1943, the decrease ranging only from a minimum of 0.6 per cent to a maximum of 2.1 per cent. The output of 4,524,000,000 kwh for the week of Dec. 2, 1944, compares with 3,884,000,000 kwh for the corresponding week of 1942, 3,976,000,000 kwh for 1941, 2,755,000,000 kwh for 1940, 1,415,000,000 kwh for the depression year of 1932, and 1,637,000,000 kwh for the prosperity year of 1929.

BUILDING CONSTRUCTION

This leading business barometer was an outstanding exception for 1944 in that it showed a large decrease in comparison with 1943. Reporting for the first ten months of the year, the War Production Board predicted, on the basis of the October building record and a consideration of seasonal factors and expected continuation of construction controls, that "new construction activity in 1944 will fall to less than half the volume of 1943. The year 1943 in turn, as explained then, showed a decrease of 53.7 per cent during the first ten months, as compared with the corresponding period of 1942.

For the month of October, 1944 (latest available), privately financed construction totaled only $121,000,000 or 12 per cent below that of the previous October. Of this total, residential work accounted for $39,000,000, industrial $14,000,000, utilities $40,000,000, farm $15,000,000, and community buildings $13,000,000. Work financed by public funds amounted for October to $187,000,000, or 50 per cent under the $377,000,000 volume of October, 1943. Likewise, machinery and equipment deliveries to government financed industrial plants during October totaled only $64,000,000, or 59 per cent under the $156,000,000 figure for October, 1944.

COMMERCIAL FAILURES

The 1944 record of commercial failures represented a decided improvement over 1943, and that year was the best on record for a long series of years, and represented a distinct continuation of the improving business failure situation during the past seven years. The number of business failures reported by Dun and Bradstreet for the first nine months of 1944 (latest available) amounted to only 980 as compared with 2,752 for the same period in 1943, 7,641, 9,299, 10,398, and 11,197 for the corresponding period of 1942, 1941, 1940, and 1939. The nine months record of 1944 (980) also compares with full yearly records of 12,836 for 1938, 9,490 for 1937, 9,607 for 1936, 12,244 for 1935, 12,091 for 1934, 19,859 for 1933, and 31,822 for 1932, the bottom year of the depression.

With respect to failure liabilities, 1944 also showed a remarkable record. For the first nine months of the year, total liabilities of failures amounted to only $23,029,000 as compared with $37,097,000, $81,387,000, $106,105,000, $124,088,000, and $138,612,000 for the corresponding periods of 1943, 1942, 1941, 1940, and 1939. The 1944 nine months record ($23,029,000) also compares with the following full yearly record of $45,339,000 for 1943, $100,763,000 for 1942, $136,000,000 for 1941, $167,000,000 for 1940, $168,000,000 for 1939, $247,000,000 for 1938, $183,000,000 for 1937, and $928,000,000 for 1932, the bottom year of the depression.

CORPORATE DIVIDENDS

According to the New York Stock Exchange's monthly magazine, *The Exchange,* dividends of 666 separate stocks (against 649 dividend payers in 1943), for the first nine months of 1944, exceeded those of the corresponding period of 1943 by 7.2 per cent. Four hundred and forty-two paid the same dividend as in the preceding year, 170 increased their dividend distribution, and 71 paid lower dividends or suspended dividends altogether. In the aggregate, the dividend disbursement of all the stocks for the nine months ended Sept. 30 amounted to $1,471,077,000, as compared with $1,372,779,000 during the corresponding period of 1943.

The Stock Exchange's list contains 28 categories of stocks, and 1944 showed that 22 of these groups distributed larger totals than during 1943, and only six of the groups smaller dividends. The largest gainers were, in the order of their increases: amusement stocks with a gain of 35.3 per cent; automobile stocks, 33.6 per cent; rubber stocks, 29 per cent; aviation stocks, 15.6 per cent; petroleum stocks, 14.5 per cent; paper and publishing stocks, 14.2 per cent; food stocks, 11 per cent; farm machinery stocks, 10 per cent; chemical stocks, 8.5 per cent; and business and office equipment stocks, 7.8 per cent. It is thus apparent that during the year the amusement, automotive, and rubber stocks, in the order named, came greatly to the fore. The largest losing groups, in order of severity, were: shipping services stocks, with a loss of 14.9 per cent; textiles stocks, 14.2 per cent; finance stocks, 10.5 per cent; and building stocks, 8.5 per cent. It is also worthy of note that the steel, iron, and coke stocks showed a loss of 1.8 per cent; likewise, that the railroad group showed an increase of only 2.3 per cent. Commenting on its detailed report, The Exchange makes the following statement:

"In 1935 the normal corporation income tax was 13¾ per cent. This year the normal tax is 40 per cent, and superimposed upon it is an excess profits tax of 95 per cent, subject to a 10 per cent post-war refund. Before scanning the tabled figures, it would be advisable, too, to consider some of the doleful expectations voiced a year ago about the 1944 prospects for corporate earnings after taxes in the light of upward revisions of taxes, in particular, of the excess profits tax which last year was 90 per cent. . . .

"The statistics below controvert such efforts to estimate the unseen.

True, dividend disbursements in the 9 months ended with September 30 were reduced on 54 issues of common stocks listed on the New York Stock Exchange and eliminated in case of 17; but the composite result so far as 857 stocks were concerned was an increase of 7.2 per cent in cash distributions to stockholders. Only 8 of the 28 groups failed to pay out more than in the same 1943 period, but of these 2 did as well as last year.

"The group gains, where they occurred, were the most extensive among companies which had access to materials of vital importance in the conduct of war and for the fabricating of war machines and munitions. Notable increases of dividend payments occurred in the automotive, rubber, petroleum and aviation industries. Among the leaders stood, as well, the amusement business, chiefly represented by the moving picture concerns. Where dividends were lower, the larger declines were registered among categories which had difficulties with raw material supplies or worked under natural restrictions belonging to a war economy in which 50 per cent or more of the nation's productive facilities were centered on war production. Among these industries were building construction, textiles, commercial credit and leather and shoe manufacturers."

GENERAL BUSINESS INDICES

Using the figures of the Federal Reserve System (adjusted for seasonal variations) it appears that the record

INDUSTRIAL PRODUCTION

(1935–1939 average = 100)

	Adjusted for Seasonal Variation			Without Seasonal Adjustment		
	Oct. 1944	Nov. 1943	Oct. 1943	Oct. 1944	Nov. 1943	Oct. 1943
MANUFACTURES						
Durable Goods						
Iron and Steel	205	210	215	205	210	215
Machinery	p 424	463	458	p 424	463	458
Transportation Equipment	p 694	786	780	p 694	786	780
Plate Glass	64	54	47	64	54	47
Nonferrous Metals and Products	p 242	289	286	p 242	289	286
Beehive Coke	p 393	459	535	p 393	459	535
Non-Durable Goods						
Textiles	p 144	152	152	p 144	152	152
Meat Packing	154	185	168	156	206	168
Wheat Flour	p 115	128	117	p 122	129	124
Manufactured Food Products	p 149	153	146	p 160	154	156
Newsprint Consumption	89	90	96	93	98	101
Leather and Products	p 117	105	110	p 118	106	110
Petroleum Refining	(Sept.) 271	221	212	(Sept.) 271	221	212
Lubricating Oil	(Sept.) 132	137	134	(Sept.) 132	137	134
Tobacco Products	120	148	139	125	151	144
Minerals						
Bituminous Coal	p 152	131	144	p 152	131	144
Anthracite Coal	p 133	102	127	p 153	102	127
Petroleum, Crude	p 147	139	137	p 147	139	137
Iron Ore		p 223	p 223	p 265	182	310
Silver	(Aug.) 63	79	72	(Aug.) 62	80	72

(p = preliminary).
Source: *Federal Reserve Bulletin*, December, 1944.

for October, 1944 (latest figures available) shows a mixed situation as regards increases or decreases along important lines of business, as compared with 1943. Thus, moderate increases were shown in five leading types of industries, comparing October, 1944, with October, 1943, as follows: manufactured food products with an increase from 146 to 149, leather and products from 110 to 117, bituminous coal from 144 to 152, anthracite coal from 127 to 133, and crude petroleum from 137 to 147. Between the same dates, exceptionally large increases are recorded for only two industries, namely, plate glass with an increase from 47 to 64, and petroleum refining with an increase from 212 to 271.

On the other hand, moderate decreases were shown between October, 1943, and October, 1944, in eight leading industries, namely, iron and steel with a decrease from 215 to 205, machinery from 458 to 424, textiles from 152 to 144, meat packing from 168 to 154, wheat flour from 117 to 115, newsprint consumption from 96 to 89, lubricating oil from 134 to 132, and tobacco products from 139 to 120. Of all the other types of industries listed by the Federal Reserve System, only three show a substantial decline, namely, transportation equipment from 870 to 694, non-ferrous metals and products from 286 to 242, and beehive coke from 535 to 393.

COMMODITY INDEX NUMBERS

Using the U. S. Department of Labor wholesale price index for main groups of commodities, 1944 experienced a very slight upward change in the price level, namely, from 103.3 for January, 1944, to 104.1 for October (the latest available). The January index figure of 103.3 compares with 101.9 for January, 1943, 96 for January, 1942, and 80.8 for January, 1941. During the first ten months of 1944, this index represents a price increase of less than 1 per cent, and since January, 1941, of 28.7 per cent. The October, 1944, figure of 104.1 compares with total yearly averages of 103.2 for 1943, 98.8 for 1942, 87.3 for 1941, 78.6 for 1940, 77.1 for 1939, 78.6 for 1938, 86.3 for 1937, 80.8 for 1936, 80 for 1935, 75 for 1934, 66 for 1933, 64.9 for 1932, and 154.4 for 1920, the highest yearly average under this index since the beginning of the century. Very modest increases occurred during 1944 in all except a few of the main groups of commodities listed by the Bureau of Labor Statistics. Farm products may be listed as a minor exception, but even here there was an increase extending only from 121.8 to 126.2. In all the other groups of commodities listed by the Bureau, the increases for the year were trivial. A minor decline occurred in only one of the groups, namely, hides and leather products, with a decline from 117.9 to 116.7.

It is also interesting to note that the United Kingdom Board of Trade index shows a very small increase for 1944, namely, from 164 for January, 1944, to only 166.7 for September (the latest available). The latter figure compares with 162.1 for January, 1943, 156.4 for January, 1942, and 149.5 for January, 1941. In tabular form, the index numbers of the United States Department of Labor and of the United Kingdom Board of Trade for leading groups of commodities at the close of the year, compared with former years, are as follows:

INDEX NUMBERS OF COMMODITY PRICES

(Source: U. S. Dept. of Labor—*Standard Trade & Security*, "Current Statistics.")
(Source: U. K. Board of Trade—Bank of England, Statistical Summary.)

	U. S. Dept. of Labor		U. K. Board of Trade	
	1943	1944	1943	1944
January....	101.9	103.3	162.1	164.0
February...	102.5	103.6	162.1	164.6
March.....	103.4	103.8	162.2	164.9
April......	103.7	103.9	162.8	165.5
May.......	104.1	104.0	163.3	166.1
June.......	103.8	104.3	163.1	166.1
July.......	103.2	104.1	164.0	167.1
August.....	103.1	103.9	162.2	167.5
September .	103.1	104.0	162.9	167.1
October....	103.0	104.1	162.5	166.7
November..	102.9		162.7	
December..	103.2		163.4	

BUREAU OF LABOR STATISTICS WHOLESALE PRICE INDEX FOR MAIN GROUPS OF COMMODITIES

(1926 = 100)

Commodity Groups	Dec. 23 1944	Dec. 18 1943	Dec. 12 1942	Dec. 20 1941	Dec. 21 1940
All Commodities..........	104.6	102.9	100.5	94.0	79.7
Farm Products..................	126.2	121.8	112.0	96.0	69.1
Foods.........................	105.7	105.7	104.0	91.6	73.4
Hides and Leather Products......	116.7	117.9	118.4	115.5	102.7
Textile Products.................	99.0	97.2	96.6	91.4	74.2
Fuel and Lighting Materials......	83.7	82.6	80.0	79.0	72.6
Metals and Metal Products.......	103.9	103.9	103.9	103.4	97.6
Building Materials................	116.4	113.4	110.0	107.5	99.2
Chemicals and Drugs............	104.8	100.3	99.5	91.7	77.7
Housefurnishing Goods...........	106.1	104.4	104.1	102.3	90.2
Miscellaneous....................	93.9	93.0	90.3	87.5	77.1
Raw Materials....................	115.4	112.1	104.7	93.3	72.9
Semi-manufactured Articles.......	94.7	93.1	92.5	90.0	80.7
Manufactured Products..........	101.3	100.4	99.8	95.1	83.1
All Commodities other than Farm Products.....................	99.8	98.9	98.0	93.5	82.0
All Commodities other than Farm Products and Foods...........	99.0	97.8	96.2	93.9	84.4

Source: *Commercial and Financial Chronicle*, Jan. 5, 1945.

YEARLY AVERAGE

U. S. Dept. of Labor

1904.........	59.7	1925.........	103.5
1905.........	60.1	1926.........	100.0
1906.........	61.8	1927.........	95.4
1907.........	65.2	1928.........	96.7
1908.........	62.9	1929.........	95.3
1909.........	67.6	1930.........	86.4
1910.........	70.4	1931.........	73.0
1911.........	64.9	1932.........	64.9
1912.........	69.1	1933.........	66.0
1913.........	69.8	1934.........	75.0
1914.........	68.1	1935.........	80.0
1915.........	69.5	1936.........	80.8
1916.........	85.5	1937.........	86.3
1917.........	117.5	1938.........	78.6
1918.........	131.3	1939.........	77.1
1919.........	138.6	1940.........	78.6
1920.........	154.4	1941.........	87.3
1921.........	97.6	1942.........	98.8
1922.........	96.7	1943.........	103.2
1923.........	100.6	1944.........	*104.1
1924.........	98.1		

* October figure.

LABOR CONDITIONS

With respect to labor conditions, using October as the basis (latest date furnished by the *Federal Reserve Bulletin*), 1944 employment showed moderate decreases along nearly all important lines as compared with the same month of 1943. In only two cases, as reported by the *Federal Reserve Bulletin,* was there a fairly large increase or decrease, namely, in chemical and allied products with a decrease from 256.4 to 209.7, and products of petroleum and coal with an increase from 119.3 to 125.6. For durable goods, taken as a whole, the employment figure shows a decline from 232.2 to 206.6, and for non-durable goods a decline from 121.7 to 113.5.

With respect to payrolls, only moderate changes are shown in nearly all of the leading industries, according to the payroll index furnished by the *Federal Reserve Bulletin.* No large increases are noted in the entire list. However, substantial decreases did occur in four of the types of industries listed by the *Federal Reserve Bulletin,* namely (from October, 1943, to September, 1944), machinery, except electrical, with a decrease from 441.4 to 403.1; transportation equipment, except automotive, with a decrease from 2,944.8 to 2,569.4; automobiles from 368.5 to 297.1; and chemical and allied products from 438.4 to 362.6. According to the latest available report of the *Federal Reserve Bulletin,* the 1944 showing for leading types of industries as regards both employment and payrolls is as follows:

X. BUSINESS AND FINANCE

FACTORY EMPLOYMENT AND PAYROLLS

	Employment						Payrolls		
	Adjusted for Seasonal Variation			Unadjusted for Seasonal Variation			Unadjusted for Seasonal Variation		
	Oct. 1944	Oct. 1943	Nov. 1942	Oct. 1944	Oct. 1943	Nov. 1942	Sept. 1944	Oct. 1943	Oct. 1942
Durable Goods									
Iron and Steel............				164.7	174.7	165.7	312.0	319.8	264.1
Electrical Machinery......				270.4	283.4	243.0	500.9	494.7	382.7
Machinery, except Electrical....................				213.3	237.6	221.0	403.1	441.4	371.5
Transportation Equipment, Except Automotive.....				1,205.2	1,457.6	1,202.8	2,569.4	2,944.8	2,116.3
Automobiles.............				164.6	187.6	147.1	297.1	368.5	235.1
Non-ferrous Metals.......				159.0	184.3	173.5	299.1	338.2	282.7
Lumber and Timber Basic Products..............				97.2	110.2	125.1	188.1	200.9	198.3
Furniture and Lumber Products..............				100.6	109.4	110.5	186.2	191.0	168.2
Stone, Clay and Glass.....				109.5	119.3	125.3	187.1	194.0	178.9
*Total of Durable Goods...	206.4	232.0	210.2	206.6	232.2	210.4	428.3	470.3	366.2
Nondurable Goods									
Textile Mill and Fiber Products..............				93.8	103.8	111.7	169.1	174.4	173.0
Apparel and Other Finished Textiles...............				97.0	104.6	112.3	174.4	164.1	157.0
Leather Products.........				87.4	90.5	104.7	155.4	143.2	149.2
Food Products...........				123.3	122.3	121.5	199.8	182.2	164.4
Tobacco Products........				89.2	95.5	106.8	163.1	160.2	153.7
Paper and Allied Products.				112.2	118.2	114.7	184.6	183.0	158.9
Printing and Publishing...				100.8	102.3	103.1	139.0	131.0	116.3
Chemical and Allied Products..................				209.7	256.4	240.3	362.6	438.4	351.4
Products of Petroleum and Coal.................				125.6	119.3	117.8	221.0	197.7	160.8
Rubber Products.........				156.6	161.3	143.8	288.8	278.0	201.9
Miscellaneous Industries...				150.7	166.0	151.7	289.7	301.3	236.3
*Total Nondurable Goods .	112.9	121.1	123.2	113.5	121.7	123.8	200.2	199.6	177.7

* Under Adjusted for Seasonal Variation, only totals are furnished, instead of figures for individual industries.

Source: *Federal Reserve Bulletin*, November, 1944.

THE SECURITY AND MONEY MARKETS

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GENERAL STOCK MARKET CONDITIONS

Stock market movements during 1944, with respect to both the price level and the volume of transactions, were comparatively small. The comparative dullness of the market and the limited extent of price fluctuations were particularly noteworthy in view of the extraordinary dividend distributions during the year, the favorable net earnings of corporations despite high taxes, the huge volume of business reaching the limits of full capacity, and the exceptionally favorable war news on both the European and Pacific fronts. In many instances, leading common shares paid dividends to their owners amounting to an 8 per cent to 10 per cent return on the prevailing market price.

The average price level at the end

of the first ten months of the year (latest available) showed an appreciation of only about 8.2 per cent for industrial stocks, 7.3 per cent for railroad stocks, 11.3 per cent for public utilities, and for all groups of stocks combined, 8.2 per cent. Moreover, these percentage increases seem relatively small when measured by the number of absolute dollars involved because of the low dollar value prevailing at the start of the year for all of the leading groups of shares except that representing the industrial list. The year's volume of transactions on the New York Stock Exchange reached the 263,000,000 share figure (somewhat under the 278,000,000 total of 1943, but still far short of the much larger annual totals with which we became acquainted during the years 1928-37. Million share days or over were comparatively rare during 1944, and, generally speaking, three-quarter million share days or less represented the customary record.

Using a combined average for all leading groups of stocks (Standard and Poor's Index), the 1944 market experienced only three moderate price trends, namely, (1) a fairly stationary price from January to March, inclusive, (2) a rise of 9.3 per cent from April to July, reaching an average price of 103.2 or a seven-year high, (3) a decline of 3.1 per cent from July to September, inclusive, and (4) a rise of approximately 3.2 per cent from September to December, bringing the average level back approximately to the July high of 103.2. Bonds, using the Standard and Poor's Index for Corporate Bonds, maintained their unusually high price level and increased slightly but consistently throughout the year, the increase extending from 113.4 (for January) to 115.9 (for October), or 2.2 per cent.

STOCK MARKET FACTORS

Throughout 1944 the stock market gave every indication of an extremely cautious financial sentiment. The limited recovery in the price level was hesitating in character, and buying seemed to be unusually selective. As a discounter of the future, the market had the difficult task of balancing a large number of apparently favorable factors with an equally imposing list of unfavorable factors. On the apparently favorable side, the following factors seemed to command most attention: (1) greatly increased efficiency in mass production; (2) large corporate earnings and dividend allotments, in comparison with the very modest yield obtainable on government and sound corporate bond issues; (3) large cash dividends as an indication of the resiliency of industry to withstand high taxes; (4) a widespread discussion concerning the prospects of higher prices due to inflationary tendencies; (5) the prospect, also widely discussed, of a high post-war activity (amounting to a boom and believed to endure several years after the close of hostilities) to meet the needs of foreign war-torn nations as well as to fill the greatly depleted backlogs of domestically needed goods, repairs, and new construction; and (6) a feeling shared very widely that an early termination of the war would bring about a lowering of corporation taxes and a substantial abolishment of price and other economic restrictions.

Among the unfavorable factors, the following should be mentioned: (1) a rapidly increasing Federal indebtedness (referred to frequently as reaching possibly $300,000,000,000) with a prospect of this indebtedness becoming so large that a reduction in corporate tax burdens need hardly be expected for a long time; (2) necessity for an increase in the tax burden, with a reluctance to saddle much more of that burden on individuals and, instead, to siphon more and more of corporate earnings to meet the needed situation; (3) extensive and costly plans of reconversion to a peacetime economy, a situation applying to practically every business, but much more to some than others, thus making careful selectivity, when buying stocks, a prime necessity; (4) the renegotiation and termination of contracts with the Government and the effect of such renegotiations and terminations upon earnings; (5) the forecasting by many advisory services of a lower business level following the close of the war, either immediately or in the course of a few years; (6) the drift towards inflation with its resulting increase in production costs; (7) the prospect of an upward living cost trend with its unfavorable pressure upon the labor outlook, particularly when strikes may no longer be regarded as inconsistent with the war effort; (8) the prospect of radical political influences becoming rampant, when party warfare can no longer be kept under control because of war considerations; and (9) recent unfavorable political tendencies of a radical nature in foreign liberated countries.

Any attempt to balance the aforementioned lists of factors is necessarily difficult and has likely led to the cautiousness of market speculators, most of whom, according to brokerage house accounts, seem to prefer to stay on the sidelines until a further clearing of some of the aforementioned factors takes place. Towards the end of the year (November and December) two conflicting viewpoints seemed to command most attention. On the one hand, longer war prospects seemed to send stocks higher. Earlier in the year "peace scares," with their prospect of a reconversion slump, seemed invariably to cause price levels to decline. More recently, however, evidence seems to have piled up indicating that the war in Europe might continue until spring, and that the war with Japan is likely to run into several years. Still another group has emphasized that the war is likely to be protracted so long that peace earning prospects are being pushed more and more beyond the horizon. Small wonder, therefore, that the 1944 stock market was a maze of caution and over-caution, and that price changes and volume of transactions have remained so moderate. In fact, the recent rise of the market, back to the level of last July, is attributed by many authorities to be essentially due to the scarcity of good investments, occasioned by heavy bond redemptions and the increasing pressure of idle funds.

INDUSTRIAL SHARE PRICES

The limited extent of the 1944 stock movements may be shown by the monthly averages of the Standard and Poor's barometer figures for various leading groups of stocks. Fifty representative industrial stocks had an average price of 117.4 for January, 1944. Thereafter this group declined slightly to an average price of 115.8 for February. Following this month there was a gradual rise for the balance of the year with, however, periodic monthly setbacks, the monthly averages being 119 for March, 117.1 for April, 119.4 for May, 125.3 for June, 128.5 for July, 126.2 for August, 124.2 for September, and 127.1 for October (the latest figure available). Since that time the price level has improved somewhat and in mid-December the press featured the stock market's bid to test its ability to pass the seven-year high for the averages set last July. According to the press, this average seven-year high was exceeded on Dec. 8. The October average of 127.1 for 1944 compares with 117.3 for the same month of 1943, and, with reference to approximately the same period (November), 94.1 for 1942, 93.8 for 1941, 106.9 for 1940, 123 for 1939, 129.1 for 1938, 107.8 for 1937, 168 for January, 1937, and 53.5 for the yearly average of 1932, the bottom year of the 1930-36 depression. During the first ten months of the year, the January to October averages for industrial stocks showed an appreciation of slightly over 8.2 per cent. It is interesting to note that the October, 1944, average of 127.1 was 2.4 times the 1932 yearly average of 53.5, but during 1929, the great prosperity period of that industrial cycle, this industrial list reached the highest monthly level during September, namely, 245.9.

RAILROAD SHARES

With respect to 20 representative railroad stocks, the monthly averages of the Standard and Poor's barometer figure showed a smaller variation than did industrial stocks, with the exception of the first two months of the year. For January, 1944 the monthly average stood at 32.3, while for February it rose to 39.3. Thereafter the monthly average fluctuated back and forth by only about 2 points at most, namely, 40.4 for March, 39.8 for April, 40.2 for May, 41.2 for June, 42.7 for July, 41.7 for August, 40.3 for September, and 42.1 for October (the latest available). From February to October, 1944, inclusive, this list shows an appreciation of only 7.3 per cent. The October average of 42.1 compares with 37.5 for October, 1943; 29.7 for October, 1942; 27.8 for November, 1941; 30.1 for November, 1940; 33.5 for November, 1939; 31.7 for November, 1938; 33.1 for November, 1937; 47 for January, 1936; and with yearly averages of 36 for 1935, 42.9 for 1934, 39 for 1933, 26.8 for 1932, and 141 for 1929. During 1929, it should be noted that these railroad shares reached the highest monthly level during September, namely, 161.2. It is also interesting to compare the October, 1944, average of 42.1 with the 1932 low June monthly average of 15, and with the September, 1929, high average of 161.2.

PUBLIC UTILITIES

For the public utility group the year 1944 also showed only minor price movements, with a gradual appreciation in the price level. According to the Standard and Poor's barometric average for 20 representative public utility stocks, the monthly average rose from 50.2 for January to 51.8 for March. Thereafter the average price declined to 50.8 for April and 51 for May. For following months, the average stood at 52.9 for June, 54.3 for July, 55.4 for August, 54.6 for September, and 55.9 for October (the latest available). From January to October, inclusive, the list showed an appreciation of about 11.3 per cent. The October, 1944, average of 55.9 compares with 51 for the corresponding month of 1943; with 33.7 for October, 1942; 37.9 for November, 1941; 59.8 for November, 1940; 69.5 for November, 1939; 66.4 for November, 1938; 63.3 for November, 1937; 100.9 for January, 1937; 88.4 for January, 1936; and with yearly averages of 62.8 for 1935; 66.5 for 1934; 81.8 for 1933; 88.7 for 1932; and 246 for 1929.

COPPER AND BRASS SHARES

Attention may also be called to a representative list of seven copper and brass stocks, whose average monthly price fluctuated as follows: 75.2 for January, 74.1 for February, 76.3 for

TABLE I

SECURITY MARKET PRICES

	Railroads 20 stocks		Industrials 50 stocks		Public Utilities 20 stocks		Copper and Brass 7 stocks		Stocks 90 stocks	
	1943	1944	1943	1944	1943	1944	1943	1944	1943	1944
January	30.2	32.3	101.8	117.4	38.2	50.2	*75.2	*75.2	80.2	94.1
February	31.6	39.2	107.7	115.8	41.3	50.5	*80.0	*74.1	84.9	93.5
March	35.1	40.4	110.9	119.0	42.9	51.8	*84.1	*76.3	87.9	96.1
April	37.7	39.8	114.0	117.1	45.4	50.8	*85.8	*74.6	90.9	94.4
May	39.4	40.2	118.3	119.4	47.1	51.0	*84.8	*75.2	94.4	96.1
June	38.3	41.2	121.0	125.3	47.8	52.9	*80.2	*76.3	96.1	100.6
July	39.4	42.7	122.5	128.5	51.4	54.3	*82.3	*80.2	98.1	103.2
August	36.7	41.7	116.2	126.2	49.9	55.4	*77.4	*77.7	93.2	101.8
September	37.3	40.3	118.6	124.2	51.3	54.6	*76.2	*77.5	95.2	100.0
October	37.5	42.1	117.3	127.1	51.0	55.9	*77.4	*82.8	94.3	102.5
November	34.9	42.7	112.1	126.2	48.8	54.9	*74.3	*82.0	90.0	101.8
December	35.0		113.8		48.9		*72.7		91.2	

* Copper and Brass figures use 1935–1939 as a base period. All other figures use 1926 as a base period.

The above figures are an average for the month based on daily closing prices, except for Copper and Brass, which are weekly prices.

(Source of data—Standard & Poor's *Trade and Securities, Current Statistics*.)

March, 74.6 for April, 75.2 for May, 76.3 for June, 80.2 for July, 77.7 for August, and 77.5 for September (the latest available). In other words, during the first three-quarters of the year, this list appreciated in value only slightly over 3 per cent. In 1944 the September average of 77.5 compares with 76.2 for September, 1943, and with October averages for 1942 and 1941 of 80.9 and 82.4.

Combining the 90 stocks used by the Standard and Poor's index, for railroads, industrials, and public utilities, the average monthly 1944 price varied from a low of 93.5 in January to a high of 96.1 for March and May. Thereafter the prices rose gradually, standing at 100.6 for June, 103.2 for July, 101.8 for August, 100 for September, and 102.5 for October. For the first ten months of the year, the combined list of all stocks shows an appreciation of approximately 8.2 per cent.

MARKET VALUE OF SHARES

Using the figures of the New York Stock Exchange, the total market value of 1,481,000,000 listed shares on the New York Stock Exchange stood at $53,087,000,000 at the beginning of November, 1944. This value compares with $45,101,000,000 at the close of November, 1943, and with $37,374,000,000 at the close of November, 1942. The 1944 Nov. 1 value of $53,087,000,000 may also be compared with $37,882,000,000 on Dec. 1, 1941; $41,848,000,000 at the same date in 1940; $45,500,000,000 in 1939; $46,081,000,000 in 1938; $40,716,000,000 in 1937; and with $62,618,000,000 for March of 1937, the high mark before the bear market of 1937-38 began its course.

MONTHLY STOCK AVERAGES

The average monthly "All Stock Price Index" as furnished by the New York Stock Exchange, stood at 69.7 for Nov. 1, 1944, as compared with 59.8 for November, 1943; 50.6 for November, 1942; 51.6 for November, 1941; 57 for November, 1940; 63.2 for November, 1939; and 64.1 for November, 1938. The Nov. 1, 1944, average of 69.7 compares with the following Dec. 1 averages for preceding years: 37.8 for 1937, 56.01 for 1936, 45.85 for 1935, 35.59 for 1934, 32.78 for 1933, 25.61 for 1932, 34.24 for 1931, and 55.53 for 1930.

VOLUME OF STOCK TRANSACTIONS

Stock transactions on the New York Stock Exchange during 1944 showed a somewhat smaller volume of sales than was the case during 1943, namely, 263,074,018 shares as compared with 278,741,765 for 1943. The 1943 volume, as noted last year, was double that of 1942. The year 1944 was still representative of the comparative stock market stagnation that has prevailed since 1938. June, with the largest monthly transactions, recorded sales of 37,713,000 shares, while April, the smallest month of the year, recorded only 13,847,000 shares. The 1944 total of 263,074,018 shares compares with 125,677,963 shares for 1942; 170,534,363 shares for 1941; 207,605,359 for 1940; 262,015,799 for 1939; 297,446,059 for 1938; 409,468,885 for 1937; 810,000,000 for 1930; and 1,125,000,000 for 1929, the highest figure on record.

SHARES TRADED ON THE NEW YORK STOCK EXCHANGE

	1943	1944
January........	18,032,142	17,811,000
February......	24,434,084	17,104,000
March.........	36,997,243	27,643,000
April..........	33,553,559	13,847,000
May...........	35,051,545	17,228,000
June...........	23,415,845	37,713,000
July...........	26,324,332	28,220,000
August........	14,251,976	20,753,000
September.....	14,985,690	15,946,000
October.......	13,922,678	17,534,000
November.....	18,246,011	18,019,000
December.....	19,526,660	31,260,000

YEARLY TOTALS OF SHARE SALES

1920...	226,640,400	1933...	654,874,210
1921...	172,712,716	1934...	323,871,840
1922...	258,652,519	1935...	381,666,197
1923...	236,115,040	1936...	496,063,099
1924...	281,991,597	1937...	409,468,885
1925...	454,404,733	1938...	297,446,059
1926...	450,845,255	1939...	262,015,799
1927...	576,563,218	1940...	207,605,359
1928...	919,661,825	1941...	170,534,363
1929...	1,124,991,490	1942...	125,677,963
1930...	810,038,161	1943...	278,741,765
1931...	579,921,426	1944...	263,074,018
1932...	425,235,829		

On the New York Curb Market sales of shares during 1944 also showed a slightly smaller volume than was the case during 1943, namely, 71,061,783 shares, as compared with 71,382,463 shares for 1943. The year's total of 71,061,783 shares compares with 22,327,822 shares for 1942; 34,690,900 shares for 1941; 43,000,000 for 1940; 46,000,000 for 1939; 50,000,000 for 1938; 104,000,000 for 1937; 135,000,000 for 1936; 76,000,000 for 1935; 56,000,000 for 1934; 101,000,000 for 1933; 57,000,000 for 1932; 110,000,000 for 1931; 220,000,000 for 1930; and 474,000,000 for 1929.

THE BOND MARKET

Bond sales on the New York Stock Exchange during 1944 totalled considerably less than was the case during 1943, namely, $2,694,703,700, as compared with $3,254,716,525 for 1943; $2,313,197,250 for 1942; $2,114,000,000 for 1941; $1,672,000,000 for 1940; and $2,048,000,000 for 1939.

During 1944, bonds maintained an unusually high and steady price level throughout the year. Using Moody's Bond Prices as a basis (*Commercial and Financial Chronicle,* Dec. 7, 1944), the monthly average for domestic corporations stood at 111.07 at the end of January, 1944. Thereafter the average price fluctuated narrowly from month to month until the price stood at 113.31 on Dec. 5 (the latest available). This compares with high and low for 1944 of 113.31 and 110.7, with high and low for 1943 of 111.44 and 108.7, with high and low for 1942 of 107.62 and 106.04, with high and low for 1941 of 108.52 and 105.52, with high and low for 1940 of 106.74 and 99.04, and with high and low for 1939 of 106.92 and 100. The Dec. 5, 1944, price is 1.87 points in excess of the price on the similar date in 1943. United States Government bonds stood at the high average level of 120.03 on Dec. 5, 1944, compared with high and low for the year of 120.4 and 119.2, with 120.7 and 116.85 for 1943, 118.41 and 115.9 for 1942, 120.05 and 115.89 for 1941, and 119.63 and 113.02 for 1940.

The extraordinarily high price of bonds has brought the average bond yield to very low figures. According to Moody's Bond Yield Average, the average yield for all of the domestic corporation bonds was down to 2.99 per cent on Dec. 5, 1944. However, for choice bonds (the Aaa group) the yield was only 2.71 per cent, as compared with 2.74 per cent a year ago, 2.82 per cent in 1942, and 2.80 per cent on the corresponding date in 1941.

Using the Standard and Poor's barometric averages for a representative group of corporate bonds, the monthly high average stood at 113.4 for January, 1944. Thereafter the price fluctuated slightly from month to month, the monthly high average standing at 113.9 for February, 114 for March, 114.7 for April, 115 for May, 115.1 for June, 115 for July, 115 for August, 114.8 for September, and 115.9 for October (the latest available). The year thus showed a remarkably stable bond market at an unusually high price level. It should also be noted from the accompanying table that the monthly fluctuation between high and low was very small, October being the only month which showed a range between high and low of as much as 1.1 points.

COMPOSITE BOND PRICES FOR 1944

	High	Low
January	113.4	112.6
February	113.9	113.1
March	114.0	113.5
April	114.7	114.0
May	115.0	114.3
June	115.1	114.2
July	115.0	114.3
August	115.0	114.6
September	114.8	114.3
October	115.9	114.8
November	116.2	115.5
December	—	—

(Source; Standard & Poor's *Trade and Securities, Current Statistics,* November 1944).

All bonds listed on the New York Stock Exchange (1058 issues) showed a total market value of $101,801,493,000 at the beginning of November, 1944. This value compares with $90,969,000,000 on Dec. 1, 1943, $64,544,-

000,000 in 1942, $54,813,000,000 in 1941, and $50,755,000,000 in 1940. It should be noted, however, that the substantial increase in the 1944 and 1943 figures is largely attributable to the issue of large amounts of United States Government securities during the year. On Nov. 1, 1944, the average price of the aforementioned number of listed bond issues stood at 100.71, which compares with 99.02 at the corresponding date in 1943, with 96.11 in 1942, 94.8 in 1941, 93.58 in 1940, 91.24 in 1939, 90.34 in 1938, 92.36 in 1937, 100.55 in 1936, and 81.36 in the depression year of 1932.

THE MONEY MARKET

With respect to both time and call loan rates, the 1944 tendencies represented an almost exact continuance of the situation prevailing during 1943 and the preceding nine years. As was the case during previous years, in fact as far back as 1933, New York time and call loan rates were quoted at only about 1 per cent or under. There has been small demand for non-Government funds, with respect to both commercial and speculative purposes. Beginning with a January average of 0.69 per cent for four to six months prime commercial paper, and 1 per cent for call loans in New York, the average monthly rates remained extremely low month after month throughout the year. For prime commercial paper the monthly rate in New York averaged 0.69 per cent for January to April, inclusive, and 0.75 per cent for every month during the balance of the year. These average rates are approximately the same as those prevailing during 1943, when the monthly rate averaged 0.69 per cent for all of the months of the year. For call loans in New York the monthly average remained uniformly at 1 per cent for every month of the year.

According to the New York Stock Exchange figures (Dec. 1, 1944), the borrowings of the New York Stock Exchange members on collateral security continued to show a very small volume. The total of $878,000,000 for the month of November compares with $718,000,000 for November 1943, $342,000,000 for 1942, $436,000,000 for 1941, and with the following totals, for the corresponding date, of $362,000,000 for 1940, $574,000,000 for 1939, $620,000,000 for 1938, $687,000,000 for 1937, $984,000,000 for 1936, $336,000,000 for the depression year of 1932, $2,162,000,000 for 1930, and $4,017,000,000 for 1929.

INTEREST RATES

	Commercial Paper		Call Loans	
	4–6 Months		New York Stock Exchange Renewals—Average of Daily Renewal Rates	
	1943	1944	1943	1944
January	0.69	0.69	1.00	1.00
February	0.69	0.69	1.00	1.00
March	0.69	0.69	1.00	1.00
April	0.69	0.69	1.00	1.00
May	0.69	0.75	1.00	1.00
June	0.69	0.75	1.00	1.00
July	0.69	0.75	1.00	1.00
August	0.69	0.75	1.00	1.00
September	0.69	0.75	1.00	1.00
October	0.69	0.75	1.00	1.00
November	0.69	0.75	1.00	1.00
December	0.69	—	1.00	—

Source: Standard & Poor's *Trade and Securities, Current Statistics*, November, 1944.

BANKING AFFAIRS

BY ROBERT W. BACHELOR
AMERICAN BANKERS ASSOCIATION

GENERAL

Total deposits in all banks in the United States, and currency outside the banks, rose to nearly $150,000,000,000 at the end of 1944. This is an increase of $27,000,000,000 during the year and represents a doubling of the $74,200,000,000 reported for June 30,

1941. The rate of increase was 10 per cent in 1940 and the same in 1941; 28 per cent in 1942; 23 per cent in 1943; and 22 per cent in 1944. Currency in circulation increased $5,000,000,000 during 1944 to more than $25,000,000,000 at the year-end. Bank resources were almost equally divided between state-chartered banks and national banks.

LOANS

Banks continued to assist in financing the war. War loan drives in 1944 were restricted to non-banking purchasers. Treasury requirements not met by these campaigns were supplied by issues offered directly to the banks and others. In addition, banks have purchased in the open market securities already outstanding which were sold by subscribers to new issues; and have extended credit to non-speculative buyers for the purpose of purchasing and carrying new issues of United States Government securities. The small increase in loans during the year was in this category, partly offset by small declines in loans for nearly every other purpose. There was no further curtailment in consumer credit outstanding, which is now only about half the total at the end of 1941.

A survey made by the American Bankers Association as of June 30, 1944 showed that 430 banks in 186 cities had outstanding loans or commitments to make loans of $8,200,000,000, of which $5,400,000,000 was guaranteed under Regulation V.

RESERVES

The amount of bank reserves required by law increased from less than $12,000,000,000 at the beginning of 1944 to $13,500,000,000 at the end of the year. Excess reserves of the banks declined from $1,500,000,000 in mid-year to $750,000,000 at the close of 1944. Although interest rates did not change substantially, there was a slight stiffening in rates in the open market as well as in rates charged customers for loans. Federal Reserve policy was concerned with supplying sufficient reserves to allow banks to pay an additional $5,000,000,000 of currency to their depositors and to permit the withdrawal of $1,400,000,000 of gold, as well as to supply the additional reserves required against the sharply increased amount of deposits held by banks. In carrying out System responsibilities, the Federal Reserve Banks added $7,500,000,000 of United States Government securities to their holdings, raising these to a new total of more than $19,000,000,000 in late December.

SERVICES TO THE GOVERNMENT

Banks undertook the direct redemption of Series E War Savings Bonds, superseding the previous arrangements under which the banks guaranteed the signatures of individual holders, and forwarded the bonds to the Federal Reserve Banks, from which checks were sent to the individuals. The new arrangement makes it possible for the owner of a Series E bond to obtain its cash redemption value within a few minutes of presentation to a bank that has qualified to perform this service. It relieves the Federal Reserve Banks and Treasury of a mass of paper work which they were not equipped to handle promptly. Banks continued to operate ration coupon accounts, and to sell war bonds to the public, as well as to handle for the public the hundreds of millions of Treasury checks which are issued each year.

OWNERSHIP OF DEPOSITS

The great increase in the money supply that is generated by Federal fiscal policy must be owned by individuals or businesses at any instant of time. The distribution of ownership of these deposits between economic groups and between geographical sections of the United States has many implications for the present and for the post-war years.

The relative increase of bank deposits has been greatest in the Pacific Coast and Western States, and in the South Atlantic and Gulf States. There has been little expansion of deposits (on a percentage basis) in the states north of the Ohio and east of the Mississippi rivers. Increases have been greatest in counties that have a substantial war industry. Problems in bank management will arise when deposits are shifted from one city or region to another when the war is won, although it seems extremely unlikely that the total amount of deposits in all banks will be reduced for many years after hostilities cease. All evidence points to a steadily increasing amount of deposits as government spending continues on a broad scale.

Studies of the Board of Governors of the Federal Reserve System indicate that ownership of demand deposits changed from 1941 to 1944 as follows:

CHANGES IN OWNERSHIP OF DEMAND DEPOSITS, 1941 TO 1944

(Dollar figures in billions)

	July 1944	Dec. 1941	Increase	
			Dollar Amount	Percentage
Domestic business....	37.4	25.0	12.4	50
Personal.....	18.6	10.0	8.6	86
All others[1]....	3.6	2.6	1.0	38
	59.6	37.6	22.0	59

[1] Includes non-profit organizations, trust funds of banks, and deposits of foreigners.

Time deposits represent chiefly savings of individuals, and are not widely held by businesses. Also the greater part of the $25,000,000,000 of currency in circulation at the year-end was held by individuals who make their deposits in the sock or under the mattress.

EARNINGS AND CAPITAL

Net current earnings of banks that are members of the Federal Reserve System were at an annual rate of 8 per cent on capital funds during the first half of 1944, compared with 7.4 per cent for the corresponding period of 1943. Cash dividends declared were at an annual rate of 3.3 per cent on capital funds during both periods. Earnings represented 62 cents per $100 of deposits for all insured commercial banks during the year 1943, while cash dividends declared on common stock for that year amounted to 21 cents per $100 of deposits. Cash dividends declared by member banks for 1943 and the first half of 1944, in dollars, were almost identical with those declared for 1939 and the first half of 1940. Banks have followed sound financial practices in using earnings to build up capital structures and to charge off all doubtful assets. Capital accounts of Federal Reserve member banks at June 30, 1944 equalled 28.4 per cent of total assets at risk (total assets less government and cash assets), an increase during the year, although capital in relation to total assets declined to 6.4 per cent.

G-I LOANS

Loans to veterans under guarantees from government agencies, or solely upon the credit-worthiness of the borrower, have had the enthusiastic cooperation of the banking community. Regulations of the Veterans Administration concerning guaranteed loans were received only toward the end of 1944. Committees have been formed to aid in meeting the financial requirements of veterans. Much of this can be and is being handled by the banks without guarantees of any kind.

BANK CREDIT FOR SMALL BUSINESS

Early in 1944 plans were announced for the organization of a number of bank credit groups in the principal cities and states for the extension of credit to individuals and businesses whose demands could not be met by their local banks. As a goal it has been stated that "every competent man, firm and corporation that needs bank credit for some constructive purpose will get it, and for adequate amounts and for sufficient length of time to do the job."

Many additional groups are in process of organization. Groups are contemplated in San Francisco, Los Angeles, Portland, Ore., Seattle, Tulsa, in Maine, New Jersey, North Carolina, Rhode Island, Virginia, West Virginia,

COMPLETED ORGANIZATION OF 14 BANK CREDIT GROUPS, 1944

(In order of size of financial resources)

Location	Amount of Commitments	Territorial Limits of Lending Activities
New York City	$100,000,000	Nationwide
Chicago	50,000,000	Chicago trade area
New Orleans	25,000,000	Louisiana, Mississippi, and surrounding area
Houston	25,000,000	
Dallas	25,000,000	
Louisville	21,900,000	Louisville trade area
Fort Worth	20,000,000	
Oklahoma City	15,000,000	Oklahoma City trade area
Philadelphia	10,000,000	Third Federal Reserve District
Cleveland	10,000,000	
St. Louis	10,000,000	
Baltimore	8,265,000	
Wilmington	7,500,000	
Connecticut	4,000,000	Statewide
Total	$331,665,000	

and in other cities or on a statewide basis. It seems probable that total agreements to participate in these group credits will exceed $600,000,000 on completion of the organization now in process of formation.

Banks acting as a group can make loans that are too large for an individual bank or are beyond its legal lending limits. Expert credit appraisal and banking experience enable many requests for credit to be put into such form that they may be met by banks.

If a local bank is unable to extend all of the credit requested by a borrower, it will be encouraged to use its correspondents and the banking groups in order that the funds may be made available. The bank that originates a loan is expected to take a substantial commitment in the loan. The size of the commitment is measured as a percentage of the principal amount of the loan, or the legal lending limit of the bank. Each bank in a group makes its own decision as to participation in a particular loan, and is free to withdraw from any transaction that does not meet with the approval of its own management.

Some groups have a credit committee, made up of bank credit men, to examine applications. These committees draw upon the services of specialists in particular types of credits for detailed reports. Usually one bank is designated to service the loan, to hold collateral, and to act for the group. In other situations individual notes are made payable to and held by each bank.

The term loan principle has been adapted to the needs of many small businesses and this type of credit is being extended by more banks. Many lenders are establishing small business loan departments. Regional meetings have been held throughout the country to acquaint officers of the smaller banks with the most recently developed procedures for handling applications for loans of this type. It has been emphasized that the organization of these "credit pools" does not mean that banks are embarking upon a program of making reckless loans. Such loans are not of benefit to the borrower, the bank, or the community.

The pooling of resources and expert knowledge, in order to supply credit where and when it is needed, is the outgrowth of intensive study of proposals for lending and credit guarantees extending over several years. It draws heavily upon bank experience with term loans over the past decade. Experience with government guarantees of war production loans, FHA guarantees, and participations with Federal agencies in making loans, all contributed to the final plan of cooperation.

It is felt that this development will contribute substantially to the preservation of the private enterprise system and will assist in extending the service of chartered banking to the community.

PAR COLLECTION OF CHECKS

Ever since the formation of the Federal Reserve System there has been a heated controversy over the par collection of checks. Many small banks obtained an appreciable revenue by means of a small charge for remitting the proceeds of checks drawn upon them, in exchange on New York or other financially important city. During the past 30 years the non-par banks have been reduced in numbers to state banks, not members of the Federal Reserve System, in the South and in the Middle West. Other banks have relied for revenues on service charges on drawers of checks. Many city banks, as a convenience, absorbed for their customers or correspondents the exchange charge levied on checks on non-par banks, which were received in the ordinary course of business for collection.

The Board of Governors of the Federal Reserve System, in 1943, interpreted the part of Section 19 of the Federal Reserve Act as amended which reads: "No member bank shall, directly or indirectly, by any device whatsoever, pay any interest on any deposit which is payable on demand . . ." to include (and prohibit) the absorption of exchange charges by banks under certain circumstances. The Federal Deposit Insurance Corporation took the position "that the absorption of exchange charges by an insured non-member bank, in connection with its routine collection for its depositors of checks drawn on other banks can not be considered a payment of interest. . . ."

In January, 1944, Senator Maybank and Representative Brown introduced into the Senate and House of Representatives bills which would amend the Federal Reserve Act to provide that the paragraph prohibiting the payment of interest by member banks on demand deposits shall not be deemed to prohibit the absorption of exchange or collection charges. The bill was passed by the House of Representatives but not by the Senate.

The Executive Council of the American Bankers Association at its meeting of April 19, 1944 expressed the position of the Association on these bills as follows:

"1. The Brown-Maybank bills seek to correct a conflict which has arisen between government supervisory authorities out of divergent interpretations of the law. This conflict has subjected many of the banks of the country to confusion and inequity in important aspects of their operations.

"2. These divergent interpretations of the law by the government supervisory agencies apparently can only be cured by Congress, putting into the law its own interpretations of what was meant by the payment of interest in the Banking Act of 1935. An interpretation of the law should not be left to regulations of government agencies.

"3. The Association believes that the Brown-Maybank bills should not be enacted because they constitute an inadequate and unsatisfactory solution of this difficulty.

"4. We suggest legislation which would have three purposes: a. That Congress undertake to define in the law what is the payment of interest. b. That Congress state in the law limitations under which all insured banks may be permitted to absorb exchange charges only in incidental and minor amounts, and assure to the banks their right to perform other banking services to their depositors. c. To postpone for a reasonable period of time the effective date of the law relating to the absorption of exchange charges, thereby allowing for adjustments.

"5. The Association reasserts its previous position in opposition to the forcing of universal par clearance by federal law or regulation."

ASSETS AND LIABILITIES OF ALL ACTIVE BANKS IN THE UNITED STATES AND POSSESSIONS, BY CLASSES[1]

(June 30, 1944)

(In thousands of dollars)

	Total All Banks	National Banks	All Banks Other than National	Banks Other than National		
				State (Commercial)[2]	Mutual Savings	Private
Number of banks	14,598	5,042	9,556	8,973	536	47
ASSETS						
Loans on real estate	$ 8,798,273	$ 2,038,770	$ 6,759,503	$ 2,408,132	$ 4,349,063	$ 2,308
Other loans, including rediscounts and overdrafts	16,706,065	9,190,910	7,515,155	7,405,499	55,894	53,762
Total loans	25,504,338	11,229,680	14,274,658	9,813,631	4,404,957	56,070
U. S. Government securities:						
Direct obligations	75,144,235	38,156,365	36,987,870	29,629,355	7,288,541	69,974
Guaranteed obligations	985,642	634,504	351,138	345,208	5,744	186
Obligations of States and political sub-divisions	3,639,392	2,032,998	1,606,394	1,424,458	159,283	22,653
Other bonds, notes and debentures	3,401,421	1,318,488	2,082,933	1,135,956	936,531	10,446
Corporate stocks, including stocks of Federal Reserve banks	545,901	146,168	399,733	236,417	157,461	5,855
Total securities	83,716,591	42,288,523	41,428,068	32,771,394	8,547,560	109,114
Currency and coin	1,623,191	820,570	802,621	725,298	75,304	2,019
Balances with other banks, including reserve balances[3]	26,705,352	15,239,164	11,466,188	10,956,786	457,955	42,447
Bank premises owned, furniture and fixtures	1,102,148	532,377	569,771	464,298	104,908	565
Real estate owned other than bank premises	251,975	25,582	226,393	77,342	148,541	510
Investments and other assets indirectly representing bank premises or other real estate	94,766	49,356	45,410	33,924	11,455	31
Customers' liability on acceptances	57,830	34,003	23,827	17,725	—	6,102
Other assets	503,474	181,690	321,784	261,482	59,550	752
Total assets	139,559,665	70,400,945	69,158,720	55,130,880	13,810,230	217,610

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[1] Excludes banks in Guam and The Philippines on account of the war.
[2] Includes trust companies and stock savings banks.
[3] Excludes reciprocal interbank demand balances with banks in the United States.

	Total All Banks	National Banks	All Banks Other than National	Banks Other than National		
				State (Commercial)[2]	Mutual Savings	Private
LIABILITIES						
Demand deposits of individuals, partnerships, and corporations	$ 58,420,660	$32,745,584	$25,675,076	$25,526,270	$ 22,375	$126,431
Time deposits of individuals, partnerships, and corporations	33,440,899	11,056,548	22,384,351	9,947,604	12,419,213	17,534
U. S. Government and postal savings deposits	19,650,768	10,825,128	8,825,640	8,824,165	1,208	267
Deposits of States and political subdivisions	5,043,991	2,998,352	2,045,639	2,041,990	1,296	2,353
Deposits of banks[3]	11,240,113	7,403,551	3,836,562	3,796,622	315	39,625
Other deposits (certified and cashiers' checks, etc.)	1,570,816	804,090	766,726	763,909	1,472	1,345
Total deposits[3]	129,367,247	65,833,253	63,533,994	50,900,560	12,445,879	187,555
Bills payable, rediscounts, and other liabilities for borrowed money	87,116	6,205	80,911	79,025	14	1,872
Acceptances executed by or for account of reporting banks	64,690	37,869	26,821	20,430	—	6,391
Other liabilities	685,111	413,009	272,102	228,923	42,697	482
Total liabilities	130,204,164	66,290,336	63,913,828	51,228,938	12,488,590	196,300
CAPITAL ACCOUNTS						
Capital notes and debentures	86,569	—	86,569	81,853	4,716	—
Preferred stock	235,612	112,220	123,392	123,392	—	—
Common stock	2,714,712	1,441,358	1,273,354	1,266,859	—	6,495
Surplus	4,229,164	1,692,172	2,536,992	1,598,866	925,956	12,170
Undivided profits	1,522,165	604,198	917,967	568,691	348,940	336
Reserves (and retirement account for preferred stock and capital notes and debentures)	567,279	260,661	306,618	262,281	42,028	2,309
Total capital accounts	9,355,501	4,110,609	5,244,892	3,901,942	1,321,640	21,310
Total liabilities and capital accounts	139,559,665	70,400,945	69,158,720	55,130,880	13,810,230	217,610

[3] Excludes reciprocal interbank demand balances with banks in the United States.

INTERNATIONAL MONETARY AGREEMENTS

In July, 1944, a United Nations Monetary and Financial Conference drafted plans for an International Monetary Fund and for an International Bank for Reconstruction and Development. These agreements are to be submitted to the various governments concerned.

Plans for the monetary fund propose to permit a country to meet its quota by the deposit of gold, a universally acceptable metal, or by the deposit of unsecured local currency or by government securities redeemable in currency upon demand. They make no provision for the deposit of silver, which is actually used as a medium of exchange and a store of value by a large proportion of the people of the world. This omission seems strange when both gold and various unsecured paper currencies with all shades of value are acceptable.

Proposals for the Bank have had wide acceptance and have drawn the least criticism. It has been suggested that the Bank could take over the most essential functions of the Fund, and with agreements as to relationships between the "key currencies," essential problems of foreign commerce and investment could be handled without an elaborate and complicated organization such as proposed for the Fund. The American Bankers Association has not made public its views as to the merits of these proposals.

AMERICAN BANKERS ASSOCIATION

The American Bankers Association, the national organization of banking, includes in its membership 15,500 of the 16,000 state commercial, national, savings banks, and trust companies, and other eligible institutions. The 1944 meeting was held in Chicago in mid-September. Attendance was restricted in accordance with wartime regulations.

Officers of the Association elected for the year 1944-45 were: President, W. Randolph Burgess, vice-chairman of the Board, The National City Bank of New York; Vice President, Frank C. Rathje, chairman of the Board and president, Chicago City Bank and Trust Company, Chicago; Treasurer, Wilmer J. Waller, president, Hamilton National Bank, Washington; Executive Manager, Harold Stonier, New York.

TRUST BUSINESS

By Gilbert T. Stephenson

The Graduate School of Banking, American Bankers Association

TRUST DIVISION, AMERICAN BANKERS ASSOCIATION

The 1944-1945 organization of the Trust Division of the American Bankers Association, which is the national association of trust institutions, is as follows: President, Frederick A. Carroll, vice president and trust officer, The National Shawmut Bank of Boston; Vice President, James W. Allison, vice president, Equitable Trust Company, Wilmington, Del.; Chairman of the Executive Committee, Evans Woollen Jr., president, Fletcher Trust Company, Indianapolis, Ind.; Secretary, Merle E. Selecman, deputy manager, American Bankers Association, New York City; Members of the Executive Committee: Louis S. Headley, vice president, First Trust Company of Saint Paul State Bank, Saint Paul, Minn.; Richard G. Stockton, vice president and senior trust officer, Wachovia Bank and Trust Company, Winston-Salem, N. C.; Henry A. Theis, vice president, Guaranty Trust Company of New York; W. Elbridge Brown, vice president and trust officer, the Clearfield Trust Company, Clearfield, Penn.; Foster W. Doty, president, Union Trust Company, Springfield, Mass.; Edwin W. Marvin, vice president, the Hartford-Connecticut Trust Company; Daniel J. Monen, vice president, the Omaha National Bank, Omaha, Neb.; Evans Woollen Jr., president, Fletcher Trust Company, Indianapolis, Ind.; R. M. Alton, vice president in charge of trust department, United States National Bank, Portland, Ore.; Chester R. Davis, vice president and trust officer, Chicago Title and Trust Company; William Hardin Goodman, vice president and trust officer, Florida National Bank, Jacksonville, Fla.; T. Stanley Holland, vice president and trust officer, American Security and Trust Company, Washington, D. C.; Howard C. Lawrence, vice president, the Michigan Trust Company, Grand Rapids, Mich.; George C. Barclay, vice president, City Bank Farmers Trust Company, New York City; H. M. Bardt, vice president and trust officer, Bank of America National Trust and Savings Association, Los Angeles, Calif.; J. M. Hutchinson, vice president and trust officer, Davenport Bank and Trust Company, Davenport, Ia.; Lee P. Miller, vice president, Citizens Fidelity Bank and Trust Company, Louisville, Ky.; and John A. Reid, vice president, the First National Bank of Cincinnati, Cincinnati, O.

TRUST CONFERENCES

During 1944 three trust conferences were held: The Mid-Winter Trust Conference, Feb. 8-10; the annual session of the Trust Division in Chicago, Sept. 25; and the Mid-Continent Trust Conference also in Chicago, Nov. 9-10.

TRUST LEGISLATION

Since only a few of the state legislatures were in session during the year, very little legislation was adopted. However, one state, Virginia, adopted a common trust fund enabling act, thus bringing the number of states in which common trust funds are authorized by statute up to 22. Missouri previously by judicial decision had authorized the establishment of these funds. At the present time common trust funds are known to exist in 12 states as follows: California, Connecticut, Delaware, Georgia, Minnesota, Missouri, New York, North Carolina, Pennsylvania, Vermont, West Virginia, and Wisconsin. There is now a total of 32 common trust funds.

TRUST POLICIES

Perhaps it would be proper to say that among trust institutions the year 1944 was characterized by emphasis upon the determination, formulation, and adoption of policies for the conduct of trust business. Ever since 1933, when a Statement of Principles of Trust Institutions was adopted, which now is accepted generally as a statement of guiding principles, trust institutions, acting through their national organization, have been suggesting statements of policies with respect to one after another phase of trust business.

The latest of these suggested statements of policies and one which is of special interest and concern to the patrons of trust institutions and the beneficiaries of estates and trusts is the statement with respect to voting shares of stock held in trust accounts. Eliminating the introductory material and the suggested procedures for voting, this statement is as follows:

> Article I. As to Voting. It should be the general policy of a trust institution to vote rather than not to vote the shares of stock it holds in trust accounts. If it does not vote the shares, it should have a satisfactory, positive reason for not voting.
>
> Article II. Voting in Person. Its general policy should be to vote the shares in person—that is, through one of its directors, officers, or responsible staff members—when (1) it owns a majority of the stock of the corporation or (2) although it does not own a majority, it is important to the beneficiaries that the shares of stock be voted and it is impossible for the trust institution to know in advance of the stockholders' meeting what matters are

to come up or before the meeting to obtain the necessary information upon which to base its decision how to vote.

Article III. Voting by Special Proxy. A trust institution should vote the shares of stock by special proxy only when (1) it knows beforehand what matters are to come up and (2) it is supplied with information sufficient to act upon in reaching a decision as to voting on the issue presented.

Article IV. Voting by General Proxy. A trust institution should limit the use of the general proxy to the following combination of situations: (1) when it has clear authority to vote the given shares by general proxy, (2) when it has confidence in the management, and (3) when only routine, non-controversial matters are expected to be voted upon.

Article V. Voting by Proxy Signed in Blank. A trust institution should not sign a proxy in blank. Although it is a case in which it is proper for it to vote by general proxy and although only routine matters are to come up, it should fill in the name of a proxy.

Article VI. Right of Substitution. A trust institution should not give its general proxy the right of substitution, and if such right is given in the printed form it should be deleted.

According to this, a trust institution holding shares of stock in its trust accounts would act with respect to voting this stock just as a prudent man acts with respect to voting his own shares, that is, voting in person or by special proxy or by general proxy as a prudent man under the circumstances votes. Here then is recognition of the fact that the rule of prudence applies in a trustee's selection and management of trust investments the same as it applies in every other phase of trust administration.

The June 1944 issue of the *Trust Bulletin,* the official publication of the Trust Division, was devoted to a republication of the various statements of principles and of policies which had been prepared and published by the Trust Division during the preceding 11 years.

VETERANS' GUARDIANSHIPS

At the present time trust institutions are paying special attention to the acceptance and administration of guardianships for disabled and incompetent veterans and their dependents. It is inevitable that after this war the number of veterans requiring guardianship will be much greater than it was at the end of the First World War. The Veterans Administration in Washington definitely prefers trust institutions over individuals as guardians. Among trust institutions generally the prevailing policy is to accept these appointments. It is anticipated, therefore, that these guardianships will become an increasing part of trust business.

SMALL ESTATES

Another development of the year 1944 among trust institutions was the acceptance and even the solicitation of appointments to settle small estates, that is, estates as small as $1,000. One large trust institution on the Pacific Coast—the Security-First National Bank of Los Angeles—has established a Small Estates Division. Another large one in the East—the Security Trust Company of Wilmington, Del.—is advertising for appointments in estates as small as $1,000. Other trust institutions over the country are known to be willing to settle small estates. This attitude toward small estates is, perhaps, the most significant development of the year among trust institutions in that it indicates a trend toward the still wider and more popular uses of the trust services of banks and trust companies.

FOREIGN EXCHANGE

By Marcus Nadler
Professor, New York University

GENERAL

The year 1944 was a momentous one in many respects. It was marked by the liberation of a number of European countries, a considerable outflow of gold from the United States, marked currency depreciation in a number of liberated countries and, above all, by the Bretton Woods Conference.

In entering a country to be liberated the policy of the United Nations was to establish a fixed rate of exchange to the dollar. Such rates were fixed for France, Belgium, and Holland. The general policy was to over-value the local rates of exchange in terms of dollars. This was done partly in order to deter large spending by the armies of liberation and partly to place greater amounts of dollar and pound sterling exchange at the disposal of the respective countries.

THE FRENCH FRANC

It was quite evident from the beginning, however, that the internal purchasing power of the French franc was substantially lower than the external rate fixed by the United States and Great Britain. In Belgium, in order to reduce the medium of exchange available and to prevent a further drastic depreciation of the currency, the Government adopted a number of deflationary measures involving a reduction in the volume of currency in circulation as well as of deposits. Since this measure was not favorably received by the Belgian population, it was not followed by France. It is, however, quite certain that if the French wish to maintain the rate of 50 francs to the dollar or 200 to the pound, they, too, will have to take the necessary steps to reduce the medium of exchange as well as the huge public debt. If these measures are not taken the French franc can not be maintained at its present rate.

GREEK INFLATION

Of the other countries liberated during the year the most pronounced inflation developed in Greece. So rapid was the deterioration of the Greek drachma that the provisional government was forced to call in all outstanding notes and redeem them into new drachmae at the rate of 50 trillion old drachmae to one new one. This indicates that the inflation in Greece was 50 times worse than that in Germany in 1923.

Currencies have also depreciated in the eastern European countries freed from the Nazi yoke but so far no official measures have been taken to revamp the currency system. It is quite possible that as soon as more normal conditions have been established and particularly after the Russian armies of occupation have been withdrawn, a revaluation of the respective currencies will have to take place.

OUTFLOW OF U. S. GOLD TO LATIN AMERICA

The rates of exchange of the other members of the United Nations including all Latin American countries did not undergo any changes during the war. The most important development in this respect was the outflow of gold from the United States, particularly to the various Latin American countries. This was caused by the fact that the balance of trade of the United States, exclusive of lend-lease, showed an excess of imports over exports. Foreign nations, and notably those of Latin America, having acquired considerable amounts of dollar balances, converted them into gold. The large holdings of gold and dollar exchange in the hands of the Latin American countries augurs well for the future. They will not only enable those countries to maintain the stability of their exchanges for an indefinite period of time after the war but also to purchase large quantities of machinery and equipment as soon as these become available.

DECLINE IN FEDERAL RESERVE RATIO

The decline in the gold holdings of the United States, coupled with the increase in the volume of currency in circulation, has brought about a reduction in the reserve ratio of the Federal Reserve banks to less than 50 per cent at the end of 1944. Since the decline of gold will continue and since the volume of currency in circulation will mount at least until hostilities in Europe have come to an end, it is quite possible that during the forthcoming year the ratio will reach the statutory limit of 40 per cent.

The decline in the ratio has aroused considerable discussion in economic circles, and all kinds of dire predictions have been made as regards money rates and the government bond market. Basically, however, under present conditions the ratio is of no consequence whatsoever. In fact there is no longer any relationship between gold and the volume of currency in circulation in Great Britain or Canada. Under conditions as they prevail at the present time in the United States gold is not used as a basis for currency and credit nor can gold be owned by anybody but the United States Treasury. Under these circumstances, therefore, gold is used exclusively to meet an adverse balance of payments. This nation still has over $20,000,000,000 of the yellow metal and a decrease of little more than $1,000,000,000 is no cause for concern. Furthermore, it is quite certain that the ratio will begin to mount as soon as hostilities are over. The balance of payments of the United States will again be favorable in the post-war period, thus attracting gold, for the following reasons: (1) The demand for American merchandise is bound to be very great; (2) the supplies which foreigners will have available for sale to the United States will be limited; and (3) lend-lease will either be curtailed or eliminated entirely. Also the volume of currency in circulation is bound to decrease as soon as employment becomes less plentiful than during the war and the supply of commodities available for consumption has increased.

In order to meet this situation the Federal Reserve Act may be amended to permit a decline in the ratio without forcing the Federal Reserve banks to pay a tax and to increase the discount rate.

BRETTON WOODS CONFERENCE

Probably the most important development which will affect the foreign exchange market in the future was the Bretton Woods Conference attended by representatives of 44 nations. The remarkable thing about this Conference is that, despite the divergence of views and interests, an agreement was reached. The findings may be summarized briefly. The agreement does not deal directly with the question of stabilization. However, it does prevent currency wars and beyond an initial depreciation of 10 per cent any changes in the par value of a currency must be with the consent of the Fund. This in itself is a wholesome development for if the plan is adopted it will eliminate currency wars which were so prevalent shortly after the end of the last war. The Conference also did not advocate the immediate repeal of all foreign exchange restrictions since this would have been impossible. It merely recommends that these restrictions be eliminated three to five years after the Fund has started to operate. It also eliminates multiple currency systems.

The Conference recommended the establishment of a Monetary Fund and an International Bank for Reconstruction and Development. Each member of the Fund is given a quota which enables it to borrow from the Fund for current purposes. Basically, the purpose of the Monetary Fund is to provide foreign exchange to individual countries over a period of years and thus enable them to maintain the stability of their currencies. The amount of foreign exchange an individual country may borrow from the Fund is limited by its quota and only 25 per cent of the quota can be used during any one year. Charges are to be paid by countries which utilize the facilities of the Fund.

The International Bank for Reconstruction and Development is intended to finance the importation of capital goods. The Bank may either make loans directly or guarantee loans underwritten through ordinary investment channels. Loans can be made for specific purposes only and must be guaranteed by the government or central bank.

Shortly after the publication of the findings of the Bretton Woods Conference considerable opposition developed. The opposition contended that the Fund is unworkable and that after a short period of time its resources will consist entirely of currencies of weak nations and these will have very little value. While the institutions proposed at the Bretton Woods Conference are not perfect, it would be a calamity if they were not to be established. In the first place, it is absolutely necessary to create machinery to enable weak countries to obtain foreign exchange in order to buy certain types of raw materials and to start the wheels of industry turning again. It is also necessary to set up a machinery to enable some of these countries to obtain long-term loans.

The argument that eventually most of the currencies will be worthless does not seem valid. The fact should not be overlooked that the currencies of practically all Latin American countries as well as of the British Empire and a number of other countries will be sound. Furthermore, as soon as the Fund begins to operate, it is quite likely that individual countries will endeavor to buy where commodities are cheap. Prices of many raw materials and foodstuffs are higher in the United States than elsewhere.

While at the end of 1944 it was not as yet certain whether the findings of the Bretton Woods Conference will be ratified, it is already evident that if the institutions were established they could play a very important role in the restoration of more normal currency conditions throughout the world. Of course, the Conference is merely the initial step in international cooperation and constitutes merely a means to an end. If after hostilities have come to an end the nations of the world do not adopt sound fiscal or economic policies it is quite obvious that no exchange stability can be maintained. It can be expected later on, however, particularly after hostilities have come to an end in Europe, that the nations will consider such vital questions as tariffs, commercial policies, trade impediments, etc.

The most hopeful development in the exchange market during 1944 was the fact that 44 nations could agree on certain principles dealing with currency stabilization and mutual assistance. If the Bretton Woods findings are adopted and if a spirit of cooperation prevails in the post-war period the restoration of sound international monetary conditions will not be so difficult as is generally feared.

FOREIGN TRADE

By Grace A. Witherow

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GENERAL

The year 1944 brought some modification of the ban of secrecy on United States foreign trade that prevailed through the earlier war years. The Government now issues statistical data on a delayed basis revealing the amount and commodity character of export and import trade, except for military, strategic, and critical items, and distribution of the trade among leading Western Hemisphere countries.

This article, therefore, presents information on foreign trade in considerably more detail than the two immediately preceding annual reviews. The Department of Commerce recently released figures showing total trade with Western Hemisphere countries through June 1944 and world trade in non-military and non-strategic commodities through December 1943. Considerable data on Lend-Lease shipments through October 1944 appears in the Sixteenth and Eighteenth Reports to Congress on Lend-Lease Operations. These published data necessarily form the basis of the discussion here presented.

TOTAL TRADE

The foreign trade of the United States increased during 1944 to a new high value for the war period. Lend-Lease shipments, comprising almost four-fifths of total exports, rose by approximately $1,200,000,000 to $11,300,000,000, while cash-purchase exports increased by nearly $400,000,000 to $3,000,000,000. Total exports, Lend-Lease and cash, amounting to $14,300,000,000, exceeded the high of 1943 by 13 per cent. Imports, valued at $3,900,000,000, the highest figure since 1929, rose by $500,000,000, or 16 per cent, over the sum of the preceding year. Export values as here quoted exclude shipments to United States armed forces abroad, while imports largely exclude reverse Lend-Lease goods, furnished for the most part to

TABLE 1

U. S. EXPORTS, IMPORTS, AND BALANCE OF TRADE; AVERAGES 1910–14 TO 1936–38, AND ANNUAL 1936 TO 1944

(Data through 1915 are on a fiscal-year basis, with year ended June 30; the following figures are for calendar years. In million dollars.)

Yearly Average or Year	Merchandise			Excess of Exports (+) or Imports (−)			
	Total Exports	Total General Imports	Imports as Percentage of Exports	Merchandise	Gold[1]	Silver	Merchandise, Gold, and Silver[1]
1910–14	2,166	1,689	78.0	+477	+17	+20	+515
1911–15	2,371	1,712	72.2	+658	−3	+23	+678
1915–20[2]	6,521	3,358	51.5	+3,163	−145	+79	+3,097
1921–25	4,397	3,450	78.5	+947	−266	+10	+691
1926–30	4,777	4,033	84.4	+744	−8	+19	+754
1931–35	2,025	1,713	84.6	+312	−508	−94	−290
1936–38	2,967	2,489	83.9	+478	−1,357	−158	−1,039
1936	2,456	2,423	98.6	+33	−1,147	−171	−1,285
1937	3,349	3,084	92.1	+265	−1,271	−80	−1,085
1938	3,094	1,960	63.4	+1,134	−1,658	−223	−747
1939	3,177	2,318	73.0	+859	−3,018	−71	−2,230
1940	4,021	2,625	65.3	−1,396	−4,100	−55	−2,759
1941, total	5,147	3,345	65.0	+1,802	—	—	—
Lend-Lease	739	—	—	—	—	—	—
Cash	4,408	3,345	75.9	+1,063	−575	−41	+447
1942, total	8,035	2,745	34.2	+5,291	—	—	—
Lend-Lease	4,890	—	—	—	—	—	—
Cash	3,145	2,745	87.3	+400	−143	−39	+504
1943, total	12,713	3,369	26.5	+9,344	—	—	—
Lend-Lease	10,105	—	—	—	—	—	—
Cash	2,608	3,369	129.2	−761	+735	[4]+3	−23
1944, total[3]	14,300	3,900	27.3	+10,400	—	—	—
Lend-Lease[3]	11,307	—	—	—	—	—	—
Cash[3]	2,993	3,900	130.0	−907	(5)	(5)	(5)

[1] Physical movements of gold adjusted to include changes in gold earmarked in the United States for foreign account and in gold earmarked abroad for United States account. Gold valued at $20.67 per fine ounce through January 1934 and at $35 thereafter.

[2] Period July 1, 1915 to Dec. 31, 1920.

[3] Includes estimate for December.

[4] Balance, including lend-lease shipments.

[5] Not available.

Source: United States Department of Commerce.

United States forces in foreign lands.

Merchandise trade, both Lend-Lease and cash-purchase, again showed an export balance in 1944, reaching an all-time high of $10,400,000,000. When Lend-Lease exports are excluded as falling outside the scope of ordinary foreign-trade transactions, merchandise imports registered an excess of $900,000,000 over cash-purchase exports, a considerable increase over the comparable import balance of $761,000,000 in 1943. These import balances of 1943 and 1944 contrast with the export balances prevailing since the decade of 1870's.

The balance of trade in monetary metals shifted in 1942 from an excess of imports to an excess of exports. In 1943, the latest year for which transactions in gold and silver are available, the net outflow of gold, including actual transfers and earmarking operations, amounted to $735,000,000, while exports of silver including Lend-Lease transfers netted $3,000,000.

PRICE AND VOLUME OF TRADE

The increase in value of total exports and imports in 1944, while representing in part an expansion in physical volume of shipments, reflected mainly a higher level of prices for goods moving in foreign trade. Indexes of quantity and unit value as shown in Tables 2 and 3 indicate the relative importance of the two factors. The unit value of exports, moving considerably higher in each quarter of 1944, showed an advance of 13 per cent for the year. Import prices moved higher in the first two quarters and continued on the higher plane throughout the remaining months. Total imports, therefore, showed a rise of 7 per cent in unit value for the year 1944 above the level of 1943. As compared with pre-war 1936-38 averages, the unit value of exports increased 65 per cent in 1944 and that of imports 51 per cent.

Exports did not increase in quantity above the high level of 1943, although they remained approximately as large. Total shipments, showing marked expansion in military equipment, strategic and critical commodities, and foodstuffs, largely on Lend Lease account, roughly trebled the 1936-38 average. The wartime trade has necessarily reflected diversion of United States production to essential supplies and strict controls on distribution of practically all commodities. Exports of many articles, production of which has been suspended or curtailed, have shown marked declines, although commercial exports as a whole, particularly influenced by these factors, showed some recovery in 1944.

TABLE 2

ANNUAL CHANGES IN QUANTITY, UNIT VALUE, AND VALUE OF EXPORTS OF U. S. MERCHANDISE DURING FIRST AND SECOND WORLD WARS[1]

(Indexes)

Year	Quantity	Unit Value	Value
World War I:[2]			
1911–14	100	100	100
1915	122	101	123
1916	157	122	191
1917	171	163	279
1918	125	210	261
1919	140	227	317
1920	137	259	356
World War II:[3]			
1936–38	100	100	100
1939	113	95	107
1940	133	102	135
1941	158	109	172
1942	206	132	272
1943	296	146	430
1944	294	165	485

[1] Includes lend-lease shipments in 1941 to 1944.

[2] Indexes through 1919 are by William A. Berridge, as shown in his article "An Analysis of the Exports of Merchandise from the United States," published in *The Review of Economic Statistics*, pages 298–322, October 1919. Indexes for 1920 partly estimated on basis of change in index of wholesale prices of the Bureau of Labor Statistics from 1919 to 1920. All data are for fiscal years.

[3] Department of Commerce indexes for calendar years; 1944 partly estimated. Quantities of individual commodities entering the trade used as weights in calculating the unit value index. The quantity index obtained by adjusting the total value by the price index.

The physical volume of imports, containing crude foodstuffs in exceptionally large amount, exceeded that of 1943 by about 7 per cent. It stood, however, 8 per cent and 11 per cent, respectively, under the high figures of 1937 and 1941, since trade in crude materials and semi-manufactured products, largely from Western Hemisphere countries, did not reach the high levels of those years, when large supplies of rubber and tin arrived from the Far East.

TABLE 3

ANNUAL CHANGES IN THE QUANTITY, UNIT VALUE, AND VALUE OF U. S. IMPORTS FOR CONSUMPTION DURING SECOND WORLD WAR[1]

(Indexes)

Year	Quantity	Unit Value	Value
1936–38.....	100	100	100
1939........	94	98	92
1940........	99	105	103
1941........	117	112	131
1942........	87	129	113
1943........	98	141	137
1944........	105	151	158

[1] Department of Commerce indexes for calendar years; 1944 partly estimated. Quantities of individual commodities entering the trade used as weights in calculating the unit value index. The quantity index obtained by adjusting the total value by the price index.

TRADE IN THE FIRST AND SECOND WORLD WARS

The threefold expansion in volume of export trade since the outbreak of the Second World War, shown by the index numbers of Table 2, compares with an increase over 1911-1914 of 71 per cent in 1917, the peak year for exports during the First World War. Volume of exports in both 1943 and 1944 approximately doubled the peak of the export movement during the first war, whereas exports of the pre-war 1936-38 period exceeded those of 1911-14 by only 25 per cent.

The increase of 65 per cent in the unit value of exports in 1944 over pre-war unit values was much more moderate than the advance recorded during and immediately following the First World War. Exports rose 63 per cent in unit value in 1917 over the average of pre-war years 1911 to 1914, advanced to 110 per cent through 1918, and to 159 per cent through 1920.

LEND-LEASE EXPORTS

Lend-lease merchandise has composed by far the larger part of exports during the war period. These goods comprised as much as 82 per cent of the total export value in the third quarter of 1943 and 80 per cent in the second quarter of 1944, when they rose to maximum quarterly values of $3,022,000,000 and $3,127,000,000, respectively. In succeeding months they showed a moderate decline and for the year as a whole formed a somewhat smaller part, or 79 per cent, of the total. Annual shipments have been valued as follows: 1941, $739,000,000; 1942, $4,890,000,000; 1943, $10,105,000,000; and 1944, $11,300,000,000.

In volume of shipments, lend-lease goods reached a high point in the third quarter of 1943, and fluctuated at lower levels thereafter but aggregated for the year 1944 approximately the same large volume as in the preceding year.[1] Although lend-lease shipments leveled off during the year, supplies sent to United States armed forces abroad showed a marked expansion. The latter do not appear in United States foreign trade statistics, but information on freight cars unloaded for export indicates the increase.[2]

Distribution of lend-lease shipments by commodities and areas is readily available only on the basis of fiscal years. Munitions, including aircraft, ordnance and ammunition, tanks, motor vehicles, and watercraft, comprised 59 per cent of total shipments in 1943-44, as compared with 57 per cent in 1942-43 and 43 per cent in the preceding comparable period from the inception of lend-lease. Aircraft made up two-fifths of the munitions total and motor vehicles about one-fifth.

[1] Estimates of quantitative changes in lend-lease shipments eliminates the influence of price increases as shown by the unit-value indexes for total exports appearing in Table 2.

[2] *Survey of Current Business*, December 1944, p. 11.

TABLE 4

U. S. LEND-LEASE SHIPMENTS, BY TYPE OF GOODS AND DESTINATION

(Fiscal Years ended June 30, 1942, 1943, and 1944)

Type of Goods and Destination	Value in Millions of Dollars			Percentage of Total Lend-Lease Shipments		
	1941–42[1]	1942–43	1943–44	1941–42	1942–43	1943–44
Total Lend-Lease shipments	2,575	7,314	11,646	100	100	100
Destination:						
United Kingdom..........	1,404	3,059	4,859	55	42	42
U. S. S. R.................	511	1,931	3,490	20	26	30
Africa, Middle East, and Mediterranean area.....	288	1,140	1,643	11	16	14
China and India..........	174	431	798	7	6	7
Australia and New Zealand	102	429	482	4	6	4
Latin America............	9	75	88	(2)	1	1
Other countries...........	86	250	287	3	3	2
Type of goods:						
Ordnance and ammunitions	329	1,277	1,694	13	17	15
Aircraft and parts.........	375	1,287	2,712	15	18	23
Tanks and parts..........	161	769	886	6	11	8
Motor vehicles and parts...	209	618	1,286	8	8	11
Watercraft...............	29	197	235	1	3	2
Munitions, total......	1,103	4,148	6,813	43	57	59
Industrial materials and products[3]...................	687	1,866	2,903	27	25	25
Agricultural products[4].......	784	1,300	1,930	30	18	16

[1] Includes data for March–June 1941 as follows: total lend-lease shipments, $57,000,000; United Kingdom, $36,000,000; Africa, Middle East, and Mediterranean area, $11,000,000; China, India, Australia, and New Zealand, $2,000,000; and other areas $8,000,000.

[2] Less than 5/10's of 1 per cent.

[3] Machinery, metals, petroleum products, and other industrial items.

[4] Foodstuffs and relatively small amounts of non-food agricultural products.

Note.—Data on a calendar year basis comparable with those shown for fiscal years have not been published. The Eighteenth Report to Congress on Lend-Lease Operations shows the following for January–November 1944: total lend-lease shipments $10,413,000,000; United Kingdom, $4,680,000,000, or 45 per cent of total; U.S.S.R. $3,158,000,000, 30 per cent; Africa, Middle East, and Mediterranean area $1,129,000,000, 11 per cent; China, India, Australia, and New Zealand $1,102,000,000, 11 per cent; Latin America $75,000,000, 1 per cent; and other countries $269,000,000, 3 per cent. Munitions were valued at $5,866,000,000; industrial goods at $2,960,000,000; and agricultural products at $1,587,000,000.

Source: Sixteenth and Eighteenth Reports to Congress on Lend-Lease Operations.

Industrial materials and products, mainly machinery, metals, and petroleum products, made up 25 per cent of total lend-lease exports in 1943-44, about the same proportion as in 1942-43, while agricultural products formed 16 per cent.

The types of goods comprising lend-lease shipments and their destination during the past three years, as classified in the Sixteenth Report to Congress on Lend-Lease Operations, are shown in Table 4.

All but a small part of goods shipped under lend-lease has gone to combat areas of the Eastern Hemisphere. Shipments to various countries of the Western Hemisphere, largely for strengthening military bases and for other defense work, have formed not more than 3 per cent of the total.

Lend-lease goods in 1943-44, as in each preceding year since initiation of this form of assistance, went chiefly to the United Kingdom, and as combat zones shifted to include western Europe, shipments increased in volume. The U.S.S.R., Africa, western Asia and Mediterranean area, India and China, and Australia and New Zealand followed in the order named.

Of total shipments, valued at $11,646,000,000, the share of these areas amounted to 42, 30, 14, 7, and 4 per cent, respectively. The U.S.S.R. received a larger share than in the preceding year, and Africa, the Middle East, and Mediterranean area, a smaller part. For the period January-November 1944, during which lend-lease shipments totaled $10,143,000,000, destinations and proportions were as follows: United Kingdom 45 per cent; U.S.S.R. 30 per cent; Africa, the Middle East, and Mediterranean area 11 per cent; China and India 7 per cent; Australia and New Zealand 3 per cent; and other areas 3 per cent.

WARTIME TRADE WITH WESTERN HEMISPHERE COUNTRIES[3]

A feature of the trade with Western Hemisphere countries, transacted largely on a cash-purchase basis since our entrance into the war in 1941, has been the relatively greater expansion in imports than in exports. The ratio of imports to exports in trade with the other American republics rose from 112 per cent in 1936-38 to 163 per cent in January-June 1944. Merchandise trade with these countries will show an import balance of approximately $550,000,000 in 1944, a considerable increase over the balance of approximately $500,000,000 in 1943.

The Latin American countries have not only sent larger quantities of strategic and critical materials usually supplied to the United States, but have since the outbreak of war also shipped substantial quantities of essential goods formerly provided largely by the Far East. In addition, they have shipped considerable amounts of such articles as alcoholic beverages, candy, jewelry, and leather goods, domestic supplies of which have been affected through diversion of basic materials and manpower to war purposes and declines in imports from Europe.

On the other hand, the United States, although allocating among the Latin American countries relatively large supplies of commodities essential to their domestic economies, has cut to almost negligible amounts exports of many items formerly very important in the trade. These include passenger automobiles, refrigerators, and office machines. During 1944, however, this country found it possible to release a number of materials for exportation in larger amounts.

In trade with Canada, the customary large balance of exports has narrowed greatly in the war years. Whereas imports from Canada amounted to only 76 per cent of exports to that country in the period 1936-38, they rose to 90 per cent in the first half of 1944. The export balance amounted to approximately $200,000,000 in 1944, as compared with slightly over $400,000,000 in 1943 and $600,000,000 in 1942.

CHANGES IN COMMODITY COMPOSITION THROUGH 1943

Exports, Lend-Lease and Cash-Purchase.—Military, strategic, and critical commodities in the export trade, both Lend-Lease and cash-purchase, increased from an average value of $535,000,000 in the pre-war period 1936-38 to $6,244,000,000 in 1943, the latter amount representing approximately half of total United States exports (Table 6). This class of goods includes aircraft, military tanks, firearms, explosives, ammunition, petroleum and products, nonferrous ores and metals, steel scrap, synthetic rubber, and other less important articles.[4] Statistics showing movement of individual articles comprising the group are still unavailable for publication except as shown for lend-lease exports in the President's reports to Congress.

Among exports of non-military, non-strategic, and non-critical commodities, foodstuffs showed marked expansion in 1943, rising to $1,659,-

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[3] Yearly figures quoted are estimates based on data for January–June 1944, as shown in Table 5, the latest figures available for publication.

[4] As defined by the Executive Office of the President in a memorandum to Federal statistical agencies, dated June 7, 1944, announcing revised policies respecting publication of foreign trade statistics.

TABLE 5

U. S. FOREIGN TRADE WITH LEADING COUNTRIES AND AREAS

(1936–38 to January–June 1944)

(Exports include both cash-purchase and lend-lease goods. In million dollars)

Exports[1]

Country and Area	1936–38 Average	1939	1940	1941	1942	1943	January–June	
							1943	1944
Total exports	2,967	3,177	4,021	5,147	8,035	12,713	5,503	7,220
Canada	454	489	713	994	1,333	1,443	704	733
American Republics, total	[2]485	549	683	902	718	819	392	504
Mexico	83	83	97	159	148	186	82	134
Cuba	79	82	85	126	133	134	68	81
Central America, total	[2]42	45	58	82	61	81	35	33
Costa Rica	4	10	12	13	7	11	5	7
Guatemala	6	9	9	11	9	10	6	5
Honduras	6	6	7	9	6	6	3	4
Nicaragua	3	4	6	9	4	7	4	3
Panama, Republic of	[2]19	13	19	35	28	40	14	11
El Salvador	3	4	5	6	5	7	4	3
Dominican Republic	6	7	7	9	9	12	6	7
Haiti	4	5	5	6	5	7	3	5
South America, total	272	327	432	520	362	398	198	243
Argentina	79	71	107	109	72	32	20	14
Bolivia	5	5	8	12	11	14	7	5
Brazil	60	80	111	148	105	156	81	102
Chile	21	27	43	57	41	43	22	25
Colombia	36	51	52	66	30	46	19	25
Ecuador	4	6	6	8	9	11	4	8
Paraguay	1	1	1	1	2	2	1	1
Peru	16	19	23	32	28	34	16	18
Uruguay	9	5	11	18	17	14	7	8
Venezuela	41	62	69	68	47	45	22	36
Other areas, total	2,028	2,139	2,625	3,252	5,984	10,451	4,407	5,983
Europe, total[3]	1,243	1,289	1,643	1,840	[4]3,776	—	—	—
Africa and Western Asia, total[3]	160	148	191	534	[4]963	—	—	—
Eastern and Southern Asia, and Oceania, total[3]	557	608	684	719	[4]880	—	—	—

Imports[5]

Country and Area	1936–38 Average	1939	1940	1941	1942	1943	Jan.–June 1943	Jan.–June 1944
Total imports	2,489	2,318	2,625	3,345	2,745	3,369	1,546	2,047
Canada	345	340	424	554	717	1,024	453	657
American Republics, total	[2]542	518	619	1,008	977	1,310	606	823
Mexico	53	56	76	98	124	193	99	114
Cuba	127	105	105	181	161	292	116	201
Central America, total	[2]32	34	39	45	46	51	35	35
Costa Rica	4	3	4	9	6	9	6	4
Guatemala	9	11	11	13	16	16	9	11
Honduras	6	7	10	9	5	5	2	3
Nicaragua	2	3	3	3	5	5	4	4
Panama, Republic of	[2]4	4	4	5	3	1	1	1
El Salvador	6	7	7	7	12	14	13	11
Dominican Republic	6	6	5	10	8	12	5	11
Haiti	3	3	4	7	6	8	5	7
South America, total	322	313	390	666	632	754	346	455
Argentina	82	62	83	167	150	145	60	85
Bolivia	1	2	6	27	26	23	11	18
Brazil	107	107	105	184	165	228	98	148
Chile	34	41	65	112	140	141	74	76
Colombia	48	49	48	53	78	98	47	58
Ecuador	3	4	5	7	9	14	7	7
Paraguay	1	2	2	3	3	3	2	1

TABLE 5 (Continued)

U. S. FOREIGN TRADE WITH LEADING COUNTRIES AND AREAS (Continued)

Imports[5]

Country and Area	1936–38 Average	1939	1940	1941	1942	1943	January–June	
							1943	1944
Peru	13	14	18	24	21	26	14	15
Uruguay	10	9	18	40	21	49	22	21
Venezuela	23	24	42	49	20	26	11	25
Other areas, total	1,602	1,461	1,582	1,783	1,051	1,035	488	567
Europe, total[3]	708	616	387	277	[4]215	—	—	—
Africa and Western Asia, total[3]	97	117	179	208	[4]250	—	—	—
Eastern and Southern Asia and Oceania, total[3]	757	686	967	1,199	[4]520	—	—	—

[1] Includes re-exports of imported merchandise.
[2] Includes Canal Zone in 1936 and 1937.
[3] Not published since 1942; for trade with leading countries in pre-war years see THE AMERICAN YEAR BOOK, 1942, p. 391.
[4] Preliminary, subject to revision.
[5] General imports.
Source: United States Department of Commerce.

000,000, a value more than five times as large as in 1936-38 (Table 6). Large Lend-Lease exports of meats, dairy products, eggs, fruits, vegetables, and sugar accounted mainly for the increase.

Among crude materials shipped, raw cotton and leaf tobacco dropped to low levels in 1940 and 1941, increased moderately in 1942, and showed a larger advance in 1943. Nevertheless, exports of raw cotton in 1943 amounted to less than a third the quantity and only two-thirds the value of shipments in 1936-38. Although prices have advanced and exports of coal, mainly to Canada, have shown steady marked expansion in quantity throughout the period, total exports of non-strategic and non-critical crude materials in 1943, amounting to $561,000,000, showed a slight decrease from the average value of immediate pre-war years.

Machinery, ranking first among exports of manufactured products, totaled $1,195,000,000 in 1943, almost three times the average of shipments in 1936-38. Exports of the various components, including metal working and other industrial machinery, electrical apparatus, and agricultural machinery, primarily tractors, showed considerable expansion through 1939, 1940, and 1941, leveled off in 1942 after the United States entered the war, and again made considerable gains in 1943.

Iron and steel-mill products, second in exports of manufactured commodities, amounted to $615,000,000 in 1943, about three times the pre-war average value. Shipments showed marked expansion in 1939 and 1940, a slight decline in 1941, and further increases in succeeding years.

Textile manufactures, including yarns, valued at $423,000,000, and chemicals and related products, worth $338,000,000, each showed substantial increases during the war years and rated third and fourth among manufactured exports in 1943.

Imports of strategic, critical, and military goods[5] increased from an average value of $674,000,000 in 1936-38 to $1,521,000,000 in 1941, but in 1942 and 1943, when important supplies of the Asiatic area became unavailable, showed a slight decline to $1,232,000,000 and $1,373,000,000, respectively. These commodities accounted for 47 per cent of total im-

[5] See footnote 4.

TABLE 6

U. S. TRADE BY ECONOMIC CLASSES, 1936-38 TO 1943: TOTAL AND EXCLUDING MILITARY, STRATEGIC, AND CRITICAL COMMODITIES

(Exports include both cash-purchase and lend-lease goods. In million dollars)

Exports[1]

Class	1936–38 Average	1939	1940	1941	1942	1943
Total exports	2,925	3,123	3,934	5,020	7,960	12,590
Agricultural	778	655	517	669	1,179	2,073
Nonagricultural	2,147	2,468	3,418	4,351	6,781	10,517
Crude materials	669	545	464	355	418	662
Foodstuffs	306	313	241	502	993	1,659
Manufactures, including semimanufactures	1,950	2,266	3,230	4,162	6,548	10,269
Exports, excluding military, strategic, and critical commodities[2]	2,390	2,422	3,049	3,640	4,538	6,346
Agricultural	778	655	517	669	1,177	2,061
Nonagricultural	1,612	1,767	2,533	2,971	3,361	4,285
Crude materials	564	430	382	291	342	561
Foodstuffs	306	313	241	502	993	1,659
Manufactures, including semimanufactures	1,520	1,679	2,426	2,847	3,203	4,125

Imports[3]

Class	1936–38 Average	1939	1940	1941	1942	1943
Total imports	2,461	2,276	2,541	3,222	2,769	3,378
Agricultural	1,259	1,118	1,285	1,668	1,254	1,514
Nonagricultural	1,202	1,158	1,255	1,554	1,516	1,864
Crude materials	760	745	1,011	1,376	1,030	1,025
Foodstuffs	720	604	563	698	623	1,006
Semimanufactures	503	487	559	724	641	680
Finished manufactures	478	440	409	423	476	667
Imports, excluding military, strategic, and critical commodities[4]	1,787	1,626	1,516	1,701	1,537	2,005
Agricultural	892	795	765	882	722	1,079
Nonagricultural	895	831	750	818	816	926
Crude materials	375	369	398	411	287	357
Foodstuffs	715	600	562	694	622	1,005
Semimanufactures	261	252	202	239	247	274
Finished manufactures	436	404	356	356	381	370

[1] Exports of United States merchandise; re-exports excluded.

[2] Petroleum and products, nonferrous ores and metals, metal scrap, and synthetic rubber are the main items excluded as strategic and critical in all years; aircraft, firearms, and ammunition represent the main commodities excluded as military goods. Beginning with 1941 military tanks, motorboats, and scientific and miscellaneous apparatus for military and naval use are also excluded, while other items forming less than one-half of 1 per cent of total exports of strategic, critical, and military items are excluded in 1942 and 1943.

[3] Imports for consumption.

[4] Strategic, critical, and military imports include nonferrous ores and metals, ferro-alloys, unmanufactured wool, cattle hides, rubber, jute and burlaps, hard textile fibers, petroleum, asbestos, industrial diamonds, aircraft, explosives, firearms, and other commodities defined as falling within that class of materials.

Source: United States Department of Commerce.

ports in 1941 and 41 per cent in 1943, as compared with 27 per cent in 1936-38.

Exclusive of foodstuffs, imports of non-strategic, non-critical, and non-military items fluctuated in value be-

TABLE 7

U. S. FOREIGN TRADE IN LEADING NON-MILITARY, NON-CRITICAL, AND NON-STRATEGIC COMMODITIES, 1936-38 TO 1943

(Exports include both cash-purchase and lend-lease goods. In million dollars)

Exports[1]

Commodity	1936–38 Average	1939	1940	1941	1942	1943
Cotton, unmanufactured	319	243	213	83	99	184
Tobacco, unmanufactured	143	77	44	65	68	170
Coal	56	63	82	114	144	163
Meats and edible fats	43	53	35	139	450	758
Dairy products and eggs	6	8	18	131	306	456
Fruits and vegetables	98	98	54	91	87	156
Sugar and related products	7	13	17	10	18	56
Wheat, including flour	62	61	33	35	28	56
Feed grains (corn, oats, barley, rye)	44	23	27	18	10	7
Machinery, total	434	502	674	740	763	1,195
Metalworking machinery	71	117	256	235	238	347
Other industrial machinery	153	173	198	241	287	461
Electrical apparatus	102	105	117	146	151	269
Agricultural, and implements	65	69	77	88	70	103
Iron and steel-mill products	199	236	516	501	592	615
Textile manufactures, including yarns	87	113	132	213	217	423
Chemicals and related products[2]	117	153	197	236	266	338
Automobiles, including parts and accessories[3]	286	254	254	339	433	273
Merchant vessels, freight cars, and other vehicles, except military	21	20	70	90	143	262
Advanced manufactures of nonferrous metals	34	44	100	69	122	186
Advanced manufactures of iron and steel	44	50	68	106	120	125
Paper, paper manufactures, and wood pulp	40	38	96	91	86	85

Imports[4]

Furs, undressed	65	50	74	104	66	86
Tobacco, unmanufactured	33	37	37	38	37	42
Flaxseed	24	18	14	16	18	23
Cotton, unmanufactured	13	8	11	22	20	17
Meats, fats, and dairy products	47	41	26	30	35	38
Fish, including shellfish	31	32	29	28	29	44
Grain (wheat, corn, oats, rye, barley)	54	8	12	19	16	139
Vegetables, fruits, and edible nuts	81	76	78	82	49	73
Cane sugar	152	125	113	153	108	187
Molasses, including inedible	14	8	13	24	30	27
Cocoa, or cocoa beans	35	28	32	39	19	39
Coffee	141	140	127	177	205	273
Tea	19	21	23	29	18	29
Wine, whisky, and other spirits	69	57	53	49	50	81
Wood pulp	85	76	60	66	73	77
Softwood lumber	12	15	18	37	48	29
Diamonds, cut but not set	23	27	22	18	15	31
Sodium nitrate	10	11	12	11	17	15
Cotton manufactures	42	38	29	20	9	9
Flax, hemp, and ramie manufactures	27	21	19	16	12	7
Wool manufactures	20	19	19	20	20	11
Paper and manufactures	120	127	133	147	139	139
Machinery	18	13	10	13	40	37
Clocks, watches, and parts	9	10	13	17	24	45

[1] Exports of United States merchandise; re-exports excluded.

[2] Chemical group minus phosphate rock and explosives.

[3] In later years, mainly motor trucks and parts.

[4] Imports for consumption.

Source: United States Department of Commerce.

tween $900,000,000 and $1,000,000,000 during 1939 to 1943, inclusive, and in no year of that period exceeded the average of $1,072,000,000 recorded for 1936-38. While paper has increased somewhat in value, imports of 1943 showed a decline in quantity amounting to 10 per cent of the 1941 volume and 5 per cent of the average for 1936-38. Wood pulp imports, the largest in 1943 of any year of the war period, were less than two-thirds of the 1936-38 average quantity. Among manufactured imports, only watches made any marked gain. Textile manufactures, pottery, and other commodities, formerly coming largely from European countries, showed marked declines.

Imports of foodstuffs increased from $622,000,000 in 1942, a lower value than in pre-war years, to $1,005,000,000 in 1943. Grain, feeds, sugar, cocoa, coffee, vegetables, and beverages, especially, entered in relatively large volume in 1943.

FOREIGN TRADE POLICIES*

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TRADE SHIFTS ARISING FROM MILITARY DEVELOPMENTS

While the progress of Allied arms during 1944 reduced the area of Japanese domination in the Pacific, and cut off Germany from access to the resources of large parts of the European Continent, the areas accessible to the commerce of the Allied and friendly nations were not as yet materially enlarged by the developments of the past year. The continuation of military operations, the highly disordered state of the recovered territories, joined with the poor conditions of transport, have thus far kept most of the liberated areas from resuming any appreciable foreign trade, at least through private channels.

Progress toward resumption of normal commerce advanced further with certain colonial territories in Africa and outlying islands than with the Continent of Europe, where such merchandise for civilian use as is now being supplied is handled through military or other governmental agencies, primarily for relief and rehabilitation. The present limitations and the prospects for resumption of private trading vary with the individual areas.

ARRANGEMENTS FOR DEALING WITH WESTERN LIBERATED AREAS

Under present inter-Allied arrangements, the military authorities are to handle, for a period of approximately six months after occupation, such supplies of urgent civilian necessities as can be furnished to the areas liberated by the United States and British armies, and such surplus export products as can be made available from those areas. Thereafter, or as soon as they cease to be zones of military operations, the task of supplying the import requirements of the liberated areas is turned over to the civil governments of those areas and, where they are not able to pay for them, to the United Nations Relief and Rehabilitation Administration. Products which continue to be in overall short supply remain, for all these areas, subject to allocation by the British-American Combined Boards, upon the recommendations of UNRRA. The exportation of such supplies as the liberated territories can furnish to foreign markets becomes subject, after the period of military control, to the regulations of the local governments.

STEPS TOWARD RELAXATION OF WARTIME EXPORT CONTROLS

In the non-Axis world, the scope for commercial foreign trade broadened

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*For a fuller account of this subject, see series of articles in *Foreign Commerce Weekly* of the U.S. Department of Commerce, beginning with issue of Feb. 10, 1945.

appreciably during 1944 and its prospects brightened, as the result of a combination of developments, including a beginning in the relaxation of wartime export controls. The general scale earlier set for Allied production of military supplies reached its peak and levelled off early in the year, and the supply as well as the safety of shipping had improved. The gratifying progress of the military campaigns on all fronts, until the setback in December in Europe, further encouraged the principal Allied governments in their planning as to how soon and to what degree facilities and materials could be released for reconversion to serve civilian purposes. Prominent among the claimants for easement from the wartime restrictions upon civilian supply were the exporters and producers for foreign markets.

For several years, the normal operations of commercial exporters had understandably been curtailed and channeled in various ways, as required by the overriding needs for goods and ships for each country's own military operations and those of its allies, and for the assistance of the populations in the active war zones. Foreign traders have naturally pressed for the earliest possible release not only from wartime restrictions upon the volume of their operations, but from the complicated and time-consuming official procedures in connection with foreign transactions. For some time now these have usually involved governmental controls and often licenses in both the countries of exportation and of importation, and, in many cases, additional arrangements were required for their integration with one another.

The governments of the United States and of the United Kingdom have declared it as their endeavor to insure, to the extent practicable, that the exporters of neither country receive competitive advantage over the other as a result of the war situation. However, the precise timing and the degree of easement of wartime economic controls upon commercial exportations might be expected to differ in the various countries, in accordance with their relative supply situation in basic materials, and with the degree to which their manpower and facilities have had to be diverted to war purposes. Thus, until the changed prospect in December for an early end to the war in Europe, conditions in the United States promised to allow an earlier and somewhat larger margin of materials and facilities to be released for civilian uses, both domestically and for foreign markets, than in the case of the United Kingdom or certain other countries.

Even in the United States, however, the actual developments of the past year in this field have been more in the nature of simplification of existing wartime procedures and, in some cases, their elimination, rather than of any large-scale release of supplies for uncontrolled disposal. Some materials and products have indeed been made more freely available for civilian use, both domestically and for export, but the supplies of a great many commodities are still limited, and they have continued under control. In view of the interest of commercial concerns in the procedural as well as the supply changes, a brief analysis of the principal developments of the past year in the three principal Allied exporting countries seems worth while.

EXPORT CONTROL DEVELOPMENTS IN THE UNITED STATES

Beginning early in 1944, the export control authorities of the United States have progressively rolled back the "decentralization" procedure, which had been instituted in March 1943 to govern exports to the other American republics. Adopted originally in order to allow the governments of those other republics a voice in determining the relative essentiality of the various purposes for which the limited supplies and shipping available for their countries might be allocated, the need for arrangements involving the complicated procedures called for by this program had become less urgent. The former general requirement that import recommendations be obtained from the "country agency" of each of the other governments for most commodities, before export licenses could be issued in the United States, was successively curtailed, and now applies only to a limited "positive" list of commodities. Certain commodities were put on general license, or were in other ways relieved from the requirement for obtaining individual licenses for each transaction, or for each consignee in the same market.

Similarly, the "program license" procedure, which had governed the exports of supplies to most of the British Empire, the Soviet Union, the Middle East, and to the French, Belgian, and Dutch possessions, was discontinued on Oct. 1. That relieved exporters from the necessity of obtaining a "release certificate" from the foreign purchasing missions, established here by those countries, as a condition of securing an export license from the United States authorities for transactions with this broad range of areas. It did not affect the need for obtaining an import license from the government of the country of destination, where that is required. At various times during the year, steps were also taken to facilitate, or restore to normal private channels, the flow of trade in certain lines of exports to Turkey, the Middle East, and to various of the French and Belgian colonies.

For a considerable part of the war period, the supplying of the essential import requirements of certain countries has been programmed through a series of United Kingdom and United States "Combined Area Committees," which also designated the source of supply. An important step toward the return to normal trading with those areas was taken in the fall of 1944, when the United States authorities adopted the principle that, for commodities in long supply, the choice of the importer in the foreign countries as to the country from which he prefers a given item to be supplied should govern, subject to the availability of shipping and the special considerations present where lend-lease funds are involved.

At the close of 1944, steps were taken toward freeing trade with the Middle East from the centralized control which had been exercised for several years by the Middle East Supply Center, operating from Cairo under Anglo-American direction. That was established at the time when the closing of the Mediterranean to the Allied shipping in 1940 rendered the supplying of the essential civilian import requirements of this region an exceptionally difficult problem. With respect to most products, other than those regarded in world short supply or which present special tonnage considerations, the governments of the individual countries in the Middle East—from Egypt to Iran—are now to control their importation directly. They are, however, subject to the limitations of supplies at source and the total shipping tonnage available for the region, and must make their own arrangements regarding dollar exchange for purchases to be made in the United States.

The official attitude of the United States toward governmental bulk buying, which had been found the most expedient method in certain cases during the war, but which appears to be preferred by some foreign governments as the continuing method of purchase, has recently been materially clarified. The Foreign Economic Administration announced in December that, where similar commodities are involved and the end use is comparable, no preference is given and no higher priorities assigned to applications for export licenses submitted by foreign purchasing missions than to applications submitted directly by the trade.

In an instruction released at the end of September, President Roosevelt had already directed that, after the defeat of Germany, the Foreign Economic Administration "should relax controls over exports to the fullest extent compatible with our continuing war objectives. . . . with a view to encouraging private trade without interfering with the successful prosecution of the war against Japan." Such action depends, of course, upon the degree of relaxation over strategic commodities and others hitherto in short supply which the War Production Board feels warranted in authorizing. Moreover, it has been officially stressed in this connection that the amount of shipping which can be spared from military needs would continue to be a limiting factor upon the volume of commercial exports from the United States at any given time, as would be the current needs for domestic civilian use, and the changing demands for relief and rehabilitation purposes abroad.

A renewed tightness in the commercial shipping situation did develop toward the end of 1944, attributed mainly to the intensification of the war both in the East and in the West, and to the long turnabouts in European ports, still inadequate in number and unloading facilities. Moreover, there were official indications early in 1945 that, in view of the likelihood of a longer war in Europe, all past supply programs of the Allied countries would need to be reviewed. How far this is likely to affect the continued relaxation and simplification of foreign trade controls begun during 1944 is still uncertain.

UNITED KINGDOM

In promising the British people some relaxation of wartime controls over industry and labor when Germany was defeated, Prime Minister Churchill, in a statement to the House of Commons on Nov. 16, mentioned especially the need to rebuild exports, among the primary purposes for which an increasing part of British resources ought to be transferred to civilian production during the interim period between the termination of the war in Europe and in the Far East. The British Minister of Production subsequently stressed, however, that Britain can not expect to improve exports substantially now, without involving delay and adding to the cost of victory.

Up to the close of 1944, only minor relaxations in the British export licensing controls or procedures had been authorized. Under two orders of the Board of Trade, in March and in November, permission was granted for the exportation of limited lists of secondary commodities, without license, to all countries other than those with which trade is entirely prohibited. As late as April, however, export license control was extended to include a number of additional minor manufactures. In November, the Board of Trade removed a number of areas from the list of destinations for which all exports from the United Kingdom had for some time been subject to licensing. These comprised most of East, West, and South Africa, French and British possessions in the Pacific, and the French colonies in the Western Hemisphere.

An early indication of the desire of the British Government to allow the gradual revival of British exports in lines largely cut off during the war appeared in the announcement that, beginning October, British woolen mills, which could execute such orders without interfering with more urgent needs, could resume the production of fabrics and blankets for the United States and for the countries of Latin America. The allocations were at the rate of about half of basic exports for those areas, and the raw wool for that purpose could now be purchased. This trade had been banned for 16 months, during which export allocations of woolen manufactures had been restricted mainly to Empire countries and to certain overseas territories of friendly European countries.

The first material curtailment of the British wartime restrictions on exports was scheduled for the beginning of 1945. This is taking place in connection with the revised arrangements regarding supplies under lend-lease, announced simultaneously in Washington and London on Nov. 30, which contemplated substantial reductions in the need for inter-Allied lend-lease assistance during the period following the defeat of Germany and, in a measure, anticipated those changes.

After Jan. 1, 1945, certain finished products and raw materials, notably iron and steel, will no longer be provided by the United States to the United Kingdom under lend-lease. From the British viewpoint, as Prime

Minister Churchill announced in Parliament, Britain will "then be free to export a wide range of goods made from those materials." This referred to freedom from the limitations of the so-called "White Paper" of September 1941, in which the British Government had undertaken that articles received under lend-lease from the United States, or similar to items so received, would not be exported commercially from the United Kingdom without prior agreement of the two governments. The "White Paper" limitations continue to apply to materials or products which are received from the United States under lend-lease, and to all articles in short supply obtained from the United States.

While the prospect for a revival of British exports during the coming year in products made from materials no longer in the lend-lease category has been widely hailed in public discussions in the United Kingdom, the Chairman of the Board of Trade warned against early expectations of any "large turnover of capacity and labor to the export trade."

CANADA

Early in December, 1944, Canada lifted the requirement of a permit for exportation from nearly 200 commodities, when shipped to British Empire countries or to the United States. The products affected ranged from furs and pig iron to machine tools and cosmetics, and the Minister of Trade and Commerce explained that the measure was in line with the official policy "to relax export permit restrictions as soon as a firm trend toward progressive improvement in the general supply situation became evident." The administering officials have indicated, however, that it was not intended to allow "excessive diversion of goods from the home market" and that, if by substantial increase in the exports of a commodity a short supply domestically should develop, they will recommend the reinstatement of export control. Exporters were also warned to assure themselves, before making shipment, that the importer was in possession of a valid import license from his government, where that was necessary.

INDICATIONS OF INCREASE IN TRADE AMONG NON-AXIS COUNTRIES

The United States, the United Kingdom, and Canada have been the three principal countries upon which the non-Axis world has come to depend during the war as sources of supply. Only in part are the statistics on the foreign trade of these countries for 1944 yet available, by which to judge how far the relaxation of their export restrictions and the simplification of procedures during the past year, joined with the easement in supplies and shipping, had resulted in actual increases in the merchandise exported from these countries, and to which destinations.

For the United States, sufficient data are available to show, in a general way, the character of the year's trade changes. An increase in the cash exports from the United States during 1944 over the preceding year of close to $400,000,000 is indicated from the preliminary returns. This appears to have been accomplished concurrently with an increase of about $1,200,000,000 in the value of goods shipped abroad during the year under lend-lease. The major part of the increase in cash exports during the year was to Latin America. While varying with the individual countries, exports from the United States to Latin America as a whole were about one-third higher in value than during 1943.

Canadian exports had, by November 1944, increased by $500,000,000 over the preceding year, to a record total. Since the amount which Canada could send to its Allies during the year under mutual-aid, the Canadian equivalent for lend-lease, was limited by the 1944 budget to somewhat less than in 1943, the increase in total exports presumably measures roughly the enlargement of Canadian cash exports. For the United Kingdom, no trade figures at all have been made known for 1944.

In varying degree for different classes of products, the somewhat advanced prices over the preceding year account for part of the higher values recorded for the foreign trade of the past year. All things considered, however, the statement seems warranted that, in addition to continued large international movements of goods under lend-lease and mutual-aid programs, the year 1944 was marked by a small but definite increase in the volume of total commercial trade among the non-Axis countries, with particularly sizable increases on the part of most countries in the Western Hemisphere.

REACTIONS OF IMPORTING COUNTRIES TO PROSPECTIVE EASEMENTS IN FOREIGN SUPPLIES

The changes in their trade controls introduced during 1944 on the part of the other non-Axis countries, partly under the prompting of changes in their own positions or plans, but principally in response to the actual or prospective freer availability of foreign supplies, have varied widely. Many of them have given evidence of welcoming the prospect of securing supplies from abroad more readily and with less burdensome procedures, and some have already begun to simplify their wartime methods of control over the placements of foreign orders and over the distribution of the goods within their territories. Others, however, have adopted measures during the past year which, on their face, appear designed to be more restrictive of imports in the period ahead, although some of them may merely reflect a closer precautionary attitude toward them. In a few cases, the new measures apparently look to the postwar rather than the transitional period.

The type of reaction has varied, both among the different parts of the British Empire and among the individual countries of Latin America, the two groups of countries which together have represented the markets for the bulk of United States commercial exports during the war.

REACTIONS AMONG THE BRITISH COUNTRIES

Effective Aug. 1, 1944, the Canadian Government lifted the general license restrictions or prohibitions upon the importation from the United States and other non-sterling countries of a long list of products considered of secondary essentiality, which had been in effect since the War Exchange Conservation Act of 1940. The greatly improved foreign exchange position of Canada was cited as the reason for terminating this emergency measure, which the Minister of Finance recognized as regrettably discriminatory, and which "would not, in normal circumstances, be compatible with our Trade Agreement with the United States."

It was officially recognized, however, that the Canadian price ceiling may not make it profitable to import some of the items on which the restrictions had been lifted, and that the supply situation in the United States or other foreign sources may in any case limit possible importations. Moreover, many of the products affected continued liable to import restrictions of a less formal character, within the discretion of the various commodity controllers, but with the difference that such restrictions would apply to imports from all countries, including those in the sterling area. Such trade reports as are yet available indicate that, while importations into Canada from the United States and elsewhere have been resumed in a considerable number of minor items, no important lines have thus far shown any sizably increased importations.

In October, the Government of British India announced a liberalization of its import control policy in certain directions, with the object of insuring increased supplies of essential consumption goods for its civilian population, and of checking the rise of prices. The Chief Controller of Imports declared that the Indian quota system was intended to save foreign exchange and shipping space and not to serve as a protective measure; and, now that shipping space was easier, the general policy would be to issue licenses for the importation of consumer goods provided foreign suppliers would accept firm orders.

In July 1944, Australia announced a relaxation of import restrictions on certain products from non-sterling countries. Some of them, chiefly replacement parts for various classes of machinery and apparatus, are now admitted without limit as to quantities; others may now be imported but on a quota basis The importation of many classes of goods from non-sterling countries through commercial channels had been severely restricted into Australia since December 1939, for the declared purpose of conserving foreign exchange, principally dollars, for the most essential war requirements. The Australian exchange position had recently eased appreciably, and the Minister for Trade and Customs declared that these relaxations might be regarded as a first installment, with further steps depending upon the war situation, but that no general removal of import restrictions is possible at the present time.

Of related significance is the recently reported tendency for the Australian Government gradually to curtail bulk buying abroad through its purchasing mission, a practice which had been especially prominent in its commerce with the United States during the last few years. Doubt has been expressed, however, whether any substantial increase in overall commercial importations into Australia is to be expected until the conclusion of the war in the Pacific.

The situation in New Zealand seems quite different. In announcing the import licensing schedule for 1945, which embodied no material changes from the prevailing situation, the Minister of Customs made this declaration: "All will appreciate that the increased calls which will be made on our overseas funds in the immediate post-war period, particularly for essential requirements of industry in the form of raw materials and replacements and additions to plant, leave no alternative but to conserve those funds, and in the meantime, therefore, no general relaxation of the limitation applied to imports of certain classes of goods will be expected." Unlike that for 1944, the new New Zealand schedule did not provide that all applications for licenses to import from the United States had to be reviewed in relation to the United States export "program" procedure, which, as earlier indicated, had recently been terminated.

In December 1944, Bermuda cancelled the import embargo established in 1942 on a long list of products from all sources, and on specified articles from non-sterling sources. The principal limitation upon the quantities imported is to be the overall dollar allocations to importers. This action on the part of Bermuda seems to be exceptional however. Reports from other parts of the British Empire do not indicate that any general instructions have yet been issued from London for the early relaxation of the rigid exchange control and import licensing system instituted in the British colonies generally, early in the war, under which applications to import from non-sterling sources were to be refused if the products were at all obtainable from within the Empire.

REACTIONS AMONG THE LATIN AMERICAN COUNTRIES

At least three different types of reactions were discernible during 1944 among the countries of Latin America to the prospective freer availability of foreign products, and especially to the progressive roll-back of the decentralization procedure for licensing exports from the United States, which had come to be by far their predominant source of supply.

In all of them, the function of screening the applications for foreign orders and of selecting those to be granted "import recommendations" lost its former high importance, and either the local body charged with this task was reorganized on a revised basis, or the reduced function was merged with those of some other body having general supervision over the country's foreign trade and exchange matters. Commercial interests concerned with imported goods generally hailed the relief from the complicated procedures and delays naturally involved in getting clearance for a transaction from governments in two countries.

Not in all cases, however, was the relaxation in export control on the part of the United States accompanied by corresponding loosening of the control over the trade on the part of the country of importation. In a number of countries of Latin America, the reaction to the immediate improvement in the supply situation, and to the prospect of the later general reopening of international trade, has been to introduce a general import permit system or to take other measures which lend themselves to various uses. They may be simply prudent safeguards for their national economies during the readjustment period ahead, considering the high dependence of all these countries upon their external trade; or they may be intended to be distinctly restrictive of increased importations, at least in selected lines. Much will depend upon how they are administered in practice when world commerce reopens in a broad way. Thus far, there has been only a moderate increase in the actual quantities or range of products freely available from abroad, and most of these new import controls have as yet been only lightly applied.

Suggestive of preliminary planning for the period after the war, were the measures taken during the past year by several of the American republics. Primarily, these measures seem part of the general programs now under active consideration by many governments, in Latin America and elsewhere, for promoting by various means greater industrialization and diversification. Incidentally, however, they sometimes involve changes in attitude toward the importation of particular classes of goods. In several countries, they provide for the suspension of import duties on machinery and equipment for new industries; in a few, on the other hand, they appear designed to limit the possibilities for the renewed sale in their markets of products formerly imported which now are, or would be, produced within the country.

RESTRICTIVE POTENTIALITIES OF NEW IMPORT PERMIT SYSTEMS

The import license systems introduced by various countries, notably in Latin America, during the past year or so, and the systems of controlling foreign trade through exchange permits, which many of them have operated in some form since the 30s, may serve as simply transitional or precautionary measures or may have more disquieting implications. They have the potentialities, if continued beyond the emergency period as purely unilateral measures, of developing into means of materially restricting imports after the most urgent wartime shortages have been made up, or of encouraging uneconomic self-sufficiency through shielding new industries and old against the competition of renewed imports from the old-established sources. Those possibilities are enhanced by the fact that the terms of the authority of most import permit or exchange licensing systems are quite broad. Their practical operation would apparently depend upon the discretion of the administering officials, since no provision is made for prior legislative approval of the application of the restrictions to particular products or sources.

IMPLICATIONS OF WARTIME CHANGES IN BRITISH AND FRENCH EMPIRE PREFERENCES

Somewhat similar concern has been expressed with regard to the possible continuation into the post-war period of the preferential licensing systems which, since early in the war, have been superimposed upon the pre-war duty preferences among the various parts of the British Empire, or at least those in the sterling pool, as emergency measures to reserve their foreign exchange resources, principally of dollars, for the most essential wartime requirements. As earlier noted, Canada, British India, and, to a limited extent, Australia and Bermuda, appear to be the only British areas which have taken action thus far, as their exchange situations eased, to relax the license restrictions earlier imposed, under which orders could not be placed in non-sterling countries for many classes of goods if they were at all obtainable from sterling or Empire sources.

If these preferential license restrictions of the various British countries, plus the pre-war tariff preferences, continue on anything like their present basis into the post-war period, they are capable of constituting strong instruments for reserving Empire commercial markets more exclusively than ever for other Empire countries, and for affording hidden protection to war-stimulated local industries by holding down the resumption of lower-cost importations from the United States or other non-sterling countries. In the aggregate, such a prolonged carry-over of wartime expedients may seriously restrict the full-bodied restoration and expansion of international trade, which is generally recognized as essential to the recovery and prosperity of all countries.

Within the French Empire, where a trade preferential system existed before the war second only to that in the British Empire, a number of steps taken during the past year or so, under the exigencies of the war, may prove of material importance later on. Noteworthy have been: the large degree of local tariff autonomy which the French Committee for National Liberation has promised Indo-China, upon liberation; the suspension of the schedule of import surtaxes on goods of non-French origin into French West Africa; and, on the other hand, the declarations of French spokesmen that closer integration will be sought, after the war, between France and her colonies.

BULK BUYING AND GOVERNMENTAL CENTRALIZATION OF IMPORTS

Bulk buying of certain basic commodities, or other centralized handling of imports in particular lines through governmental agencies, is another type of exceptional trade arrangement, that has been widely resorted to by various countries under the exigencies of the war, which some countries have already shown signs of desiring to continue in a measure beyond the war.

The possibility that a number of the countries of Continental Europe may concentrate their post-war foreign trade in governmental hands, which has emerged in the preliminary expressions of attitude on the part of certain of their spokesmen, received a good deal of public attention during the past year. It seems still too early, however, to judge how far such tendencies are likely to be translated into concrete measures when the countries involved have been fully liberated, and when the new responsible governments develop the general economic programs for their countries, of which the control of foreign trade is but one aspect. Nor does it seem warranted to assume that temporary expedients, which may be resorted to during the greatly disordered conditions faced directly following the war, will necessarily continue as the regular methods of regulating imports and exports after the transitional period is over.

More definite significance would seem to attach to the bulk purchasing arrangements which certain of the non-invaded countries are considering. During the latter half of 1944, the Government of the United Kingdom announced the conclusion of long-term contracts with those of New Zealand and of Australia for the bulk purchase of the entire exportable surpluses of meat and dairy products of those countries. These arrangements run from two to four years, or as far as 1948. Their provisions regarding guaranteed prices, and payments irrespective of deliveries, resemble less normal peace-time commercial arrangements, than those which were typical of the procurement contracts and economic support arrangements resorted to by various of the Allied countries under the exceptional conditions of the early war period.

Somewhat similar arrangements

were negotiated in May with Canada, for the British purchase during the next two years of specified quantities of meat and cheese, greatly exceeding the pre-war shipments. The British Ministry of Food has indicated that extension of bulk purchasing arrangements to Argentina and other South American countries is also contemplated.

In announcing the arrangements with Australia and New Zealand in September, the Minister of Food declared that the Government was making them "as part of its policy for safeguarding food supplies for the United Kingdom for the next few years." Nevertheless, there has been considerable discussion recently in British publications and commercial circles of the dangers of bulk buying being retained as the regular method of satisfying the country's import requirements in primary products. The concern expressed has been on the grounds of the undesirable principles of commercial policy such a program would perpetuate, as well as over the unnecessary replacement of governmental operations for competitive importations by private trading firms.

TAPERING OFF OF UNITED STATES WARTIME CENTRALIZED IMPORT CONTROLS

In the case of the United States, on the other hand, there was begun during the past year a tapering off of official bulk procurement of certain imports, and a relaxation of the centralized governmental control upon the importation and distribution of many foreign commodities resorted to during the war.

Many of the procurement and bulk purchase contracts entered into by the United States Government with the various countries of Latin America during the last few years—both to obtain greater supplies of strategic materials for war needs and to support particular surplus crops vital to the economies of those countries but temporarily not marketable—either expired during 1944 or are due to expire within the next year or so. The scope of these procurement activities of the United States is being curtailed, and the directive interest for certain of the foreign developmental programs, notably for natural rubber and cinchona, is being shifted to the governments of the other countries concerned. Such procurement contracts as were made, or renewed, during the past year by the United States governmental agencies have been on a smaller scale, for shorter terms, or on a more flexible basis than those concluded earlier in the war.

In his letter published Sept. 29, regarding the responsibilities of the Foreign Economic Administration after the defeat of Germany, the President directed that, in view of the curtailment which is then to be made in our war production, plans should be worked out for "an appropriate cut in the foreign procurement program for strategic and critical materials needed in the prosecution of the war. The adjustment to this reduced program should be made in such a way as to prevent undue and unnecessary financial losses to American taxpayers, to best preserve our foreign relations, and to strengthen the foundation for a high level of international trade in the future."

During the course of the year, the War Production Board relaxed its import controls over a number of strategic materials, removing completely the previous restrictions upon private importations for certain commodities, and again permitting for others free commercial distribution after arrival in this country. As nonstrategic materials are becoming available in liberated countries, study is made of the usual channels of trade through which such commodities had been imported in the past, and the Foreign Economic Administration consults with an advisory committee of importers of the commodity with regard to the best methods of handling the particular products.

Imports into the United States were running consistently higher in value during the past year than in 1943, with the present indications that the total for 1944 will exceed that for the preceding year by over $500,000,000. Most of this increase came from the other countries of the Western Hemisphere, which have been the source for fully two-thirds of United States imports during the last few years.

PUBLIC ACCOUNTING

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GENERAL

Developments in the field of Public Accounting during 1944 were naturally strongly influenced by war conditions. This resulted in consideration being especially directed to such subjects as renegotiation, war contract termination, and reserves for contingencies arising out of war conditions, *e.g.*, expenditures which may need to be made for reconversion to peacetime operation, or losses which may be sustained in the post-war period in disposing of inventories acquired during wartime but not suitable for normal producing activities. The subject of income taxes also received a great deal of attention from the profession, partly owing to the emphasis arising from the extremely high rates of both excess profits and normal income and surtaxes now imposed, and partly from the keen interest in the development of a post-war tax program which, from the standpoint of both substance and administration, will impose a minimum burden on industry and commerce.

RENEGOTIATION

When the law was passed late in April, 1942, which provided for renegotiation of war contracts, an element was introduced into the preparation and certification of financial statements fundamentally different from anything which had previously formed part of the philosophy and practice of American business and finance. The idea that, after a contract had been made, it could be revised as to price or profit by the unilateral action of one of the parties was a revolutionary concept. It introduced an element of uncertainty into current financial statements which was greater than that arising out of any other one of the numerous unsettling influences of war conditions. Further, until the renegotiation process had been gone through in respect of 1942 financial statements, American industry was left without any guide as to what might be the effect of the application of the renegotiation act. In September, 1942, the American Institute of Accountants issued an *Accounting Research Bulletin* calling attention to the provisions of the act, its effect on financial statements, and the necessity for at least disclosure of the possibility of renegotiation on 1942 financial statements where it appeared that the company issuing the statements was probably subject to the provisions of the act.

During 1943, initially from the procedure followed in administering the act, and later from supplemental legislation, it became evident that not only companies having direct war contracts from the Government but many other companies with a much less direct connection with the production of munitions would, in practice, be held subject to the renegotiation act.

Many renegotiations were carried out during 1943 so that by the closing months of that year somewhat of a pattern had developed which could be considered as a general guide to the possible effect of renegotiation in preparing financial statements. Consequently, in December, 1943, the Committee on Accounting Procedure of the American Institute of Accountants again issued an *Accounting Research Bulletin,* which supplemented its earlier one on the renegotiation of war contracts, the first paragraph reading as follows:

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* The author, at the time this assignment was accepted, was chairman of the Committee on Accounting Procedure of the American Institute of Accountants.

> "Since renegotiation proceedings have now been conducted over a considerable period of time, it is to be expected that many companies, particularly those which have completed renegotiation proceedings for a prior year, will be in a position to make reasonable provision for renegotiation refunds in their current financial statements, in accordance with the long recognized accounting principle that provision should be made in financial statements for all liabilities that can be reasonably estimated."

The suggestions of the *Bulletin* were generally followed in the preparation and certification of 1943 financial statements which were published in 1944, so that such statements, for the greater part, included provision for possible refunds as a result of prospective renegotiation, rather than merely indicating that renegotiation was in prospect but without giving any idea of the probable dollar effect thereof, as had perforce been the case with 1942 statements.

WAR CONTRACT TERMINATION

Termination of some war contracts and "cut backs" on others increased in number during 1944. This was owing in some cases to an accumulation of certain types of war equipment which was deemed to constitute an adequate supply thereof, changes in the design or size of other types, and various other circumstances resulting from the changing war picture as our armed forces became well equipped as compared with their almost denuded condition at the time of the Pearl Harbor attack. Also, with the feeling that the war in Europe had made such progress that there was a possibility of it being brought to a close some time during 1944, the business world felt deep concern as to the widespread cancellation of contracts at a relatively early date, and as to the retarding influence on reconversion to peacetime production if companies found themselves with their working capital largely tied up in canceled war contracts which might take a long time to settle. A notable contribution toward meeting this situation and pointing the way toward the orderly and speedy settlement of canceled contracts was the promulgation on Jan. 8, 1944 by the Director of War Mobilization of the Uniform Termination Clause and Cost Formula which had been prepared by Messrs. Baruch and Hancock. A further comprehensive report by Baruch and Hancock on war contract termination formed a basis for legislation by Congress designed to facilitate the speedy settlement of contracts after cancellation. Such legislation was embodied in the Contract Settlement Act of 1944 which was approved July 1, 1944.

By Oct. 31 the Army and Navy Departments had prepared a new Joint Termination Regulation (known as JTR) relating to the various aspects of fixed-price contract settlements which superseded earlier promulgations by the departments. As stated by the Secretary of the Navy and the Under Secretary of War:

"The Joint Termination Regulation now issued by the War and Navy Departments seeks to provide uniform and workable tools for carrying out the threefold purpose of the Contract Settlement Act of 1944; to settle termination claims fairly and quickly; to clear termination inventory from war plants promptly; and to provide adequate interim financing. Like the act, the regulation fully recognizes that the prompt settlement of termination claims can be accomplished only by fair and businesslike negotiation. Negotiation is the mainspring of settlement. This must be kept in mind constantly in applying the detailed provisions of the regulation. In large measure, the regulation provides guides, recommendations, and mechanical aids for reaching speedy and equitable settlements, and includes necessary safeguards to protect the government's interest."

The JTR includes new uniform settlement forms applicable for all procurement agencies, and cost accounting instructions which constitute in effect a new joint accounting manual. The purpose has been to simplify the settlement forms and to make it possible to file almost any type of fixed-price settlement proposal on one standard form, with accompanying inventory schedules.

The JTR states that the Accounting Manual included therein is not applicable to the termination of either cost-plus-fixed-fee contracts or parts of fixed-price supply contracts which provide that certain facilities shall be furnished at cost. The accounting procedures for such terminations are provided for by certain other promulgations of the War and Navy Departments.

The accounting profession is keenly aware of the importance of the problems involved in contract termination. It has been studying it with a view to dealing with it in financial statements so as to make them as informing as possible to stockholders and other interested parties in respect of this situation which will play a large part in the finances and reconversion possibilities of so many industrial concerns. It is expected that in the near future the American Institute of Accountants will promulgate an *Accounting Research Bulletin* on the subject.

WAR RESERVES

The financial statements of corporations published during 1944 indicated that many corporations were continuing to set up substantial amounts for war reserves. In January, 1942, the American Institute of Accountants had issued an *Accounting Research Bulletin* encouraging the setting up of special reserves to provide for possible war costs and losses, the amounts of which were not presently determinable. At that time it was hoped that many of these reserves could be made quite specific and that it would be indicated whether they were to provide for the writing down of inventories at a later date, for separation allowances when organizations have to be reduced after the return to peacetime activities, for the cost of reconversion from wartime to peacetime operation, or for other purposes of that kind.

However, it has become apparent that many boards of directors are unwilling to be too specific in stating the purpose of the war reserves set up by their companies. Presumably this is because of hesitation to commit themselves to the amount of reserve for any particular contingency because the ultimate developments may be entirely different from those which may be anticipated. The result is that many of the reserves are being provided on a kind of overall basis, that is for post-war contingencies in the aggregate.

A practical value of the creation of war reserves and setting them up in income statements would seem to be the warning which they give stockholders that in all probability they can not expect a distribution in dividends of the same proportion of profits shown during the war period as they would in the normal circumstances of peacetime.

INCOME TAX AND EXCESS PROFITS TAXES

Accounting Treatment.—In view of the much heavier rates of corporate income taxes and the imposition of very high excess profits taxes during the war period, the accounting treatment of income tax (including excess profits tax in the generic term "income tax") in financial statements has become of greater importance than during the years when the income tax upon corporate incomes was at a relatively low rate. It has become increasingly recognized that the net amount of income tax payable is sometimes the net result of a number of elements, plus and minus,* and that in such cases it is essential that an allocation be made of the several elements entering into the net income tax payable for a given period among (1) the ordinary operations, (2) those transactions reflected in the income statement after the determination of the operating income for the year, and (3) those charges or credits which have gone directly to surplus. The aim is that the operating income shall be charged with the tax applicable thereto, and not be either unduly burdened, or, what may be of greater import, relieved of a portion, or, in extreme cases even all, of such applicable tax because of the tax effect of unusual transactions.

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* For example, the net amount of income tax payable may be the balance of tax on the ordinary operating income; capital gains tax or an offset for deductible capital losses arising from non-operating transactions such as the sale of property; and the inclusion in the tax return of deductions allowable in a different year than that in which provision may have been made therefor on the corporate books.

The accounting treatment of the tax effect of carry-backs and carry-forwards has also posed somewhat of a problem, particularly in respect of the year in which such tax effects should be reflected. The carry-back results in a claim for refund of tax paid for a previous year but, on the other hand, it is only because of the developments in a succeeding year that the carry-back becomes effective. Hence, a consensus of accounting opinion has been developing that the effect of the carry-back should be reflected in the income statement of the year in which such carry-back becomes a fact, but that the tax effect thereof should be shown as a separate item in the income statement after setting forth the net income resulting from the operations of the current year.

As the carry-forward resulting from the application to the current year of an operating loss or an unused excess profits credit of an earlier year may materially reduce the taxes payable in respect of the operating income of the current year, it was concluded that at least disclosure by a footnote or otherwise should be made of the tax effect of such carry-forward when it is of material amount.

Proposal for Simplification.—Practically from the time that income taxation became a major source of Federal revenue, the accounting profession has been interested, not only in its accounting treatment, but in having the taxing law rest, so far as feasible, on sound accounting principles and in avoiding unnecessary complexity. Although there seems to have been an assumption by the public that accountants are the beneficiaries of complicated tax laws, accountants have been consistent in their endeavors to secure simplification of the Federal income tax law. At its 1943 annual meeting the American Institute of Accountants adopted a resolution urging that Congress establish a non-partisan commission "to write a simple revenue law which will express a permanent and consistent policy of federal taxation." In January, 1944, a joint resolution was introduced in Congress to carry out this recommendation which was referred to the House Committee on Ways and Means. In February the American Bar Association gave its support to the suggestion. The New York State Chamber of Commerce, the National Association of Credit Men, and the National Association of Cost Accountants have also gone on record as officially endorsing the suggestion. Although the Institute and the Bar Association doubtless recognize that the inertia to be overcome in such a case is tremendous, it is to be hoped that the effort may eventually be productive of the desired result, with much benefit to the business community as well as to taxpayers generally.

FORM OF INCOME STATEMENT

In the earlier history of financial statements the balance sheet was, in practice, regarded as more important than the income statement. This was owing to various circumstances, one being that the distribution of corporate securities was quite limited as compared with the present day. A large part of the business of the country was still conducted by partnerships and close corporations, and banks and other grantors of credit were furnished with balance sheets but in only rare instances with income statements. Consequently, the balance sheet had to be resorted to, not only for presentation of present financial position, but also for an indication of what progress may have been made by the debtor concern since the issuance of its last previous balance sheet.

Following the First World War,

trading in securities became much more active. Many closely held enterprises sold securities to the public, and the emphasis as to relative importance swung to the income statement from the balance sheet. As far back as a dozen years ago (in September, 1932, antedating the passage of either of the Securities Acts and the creation of the Securities and Exchange Commission) the Committee on Cooperation with Stock Exchanges of the American Institute of Accountants, in writing to the Committee on Stock List of the New York Stock Exchange on the subject of corporate reports, expressed itself as follows:

"It is probably fairly well recognized by intelligent investors today that the earning capacity is the fact of crucial importance in the valuation of an industrial enterprise, and that therefore the income account is usually far more important than the balance-sheet. In point of fact, the changes in the balance-sheets from year to year are usually more significant than the balance-sheets themselves.

". . . if the income account is to be really valuable to the investor, it must be presented in such a way as to constitute to the fullest possible extent an indication of the earning capacity of the business during the period to which it relates. This Committee feels that the direction of the principal efforts of the Exchange to improve the accounting reports furnished by corporations to their stockholders should be towards making the income account more and more valuable as an indication of earning capacity."

In the course of the past quarter century the form of income statement issued by industrial and mercantile corporations had become established along functional lines, *i.e.*, stating the amount of sales, deducting therefrom the cost of sales to show the gross profit margin, then the other types of expenses such as selling and administrative, and after showing the operating profit deducting therefrom interest charges, and from the balance of income deducting the portion which the Government takes in the form of excess profits and income taxes, and finally setting forth the net income.

War uncertainties have increased the problems involved in the preparation of income statements, and the shift from peacetime production to producing largely for the Government, which has been characteristic of so many industrial concerns, greatly limits the significance of income statements issued during the war period as an indication of earning power. Nevertheless, stockholders and other security holders must be currently informed as to the performance of the companies in which they are interested.

This situation has led some corporations to question the desirability of continuing the use of the usual form above referred to, which may be described as being along the functional lines of cost accounting. In place thereof, a number of companies have recently used a simplified form of statement, designated for convenience as the "single-step" form in which, generally speaking, all classes of income were set forth on the one hand and all charges against income, including excess profits and income taxes, on the other hand, with totals for the respective groups, and only one profit figure, namely, the final net profit. Practice has not been uniform among the companies using the "single-step" form. Some companies have abandoned the showing of the cost of sales, and make a general classification of the corresponding expenditures along the lines of wages and materials. Other companies continue to show the cost of sales, and their use of the "single-step" form of statement differs from the conventional form of income statement principally in the omission of any intermediate subtotals, particularly the gross profit on sales and the income before income taxes.

One argument made for the omission of the figure of "income before income taxes" is that it has no significance since the same abnormal conditions which account for the operating profit from war business also cause the imposition of taxes at war rates which absorb a large part of such operating profit. In other words, the heavy burden of taxation is in a sense a supplemental "renegotiation" of corporate profits, and the income (profit) before income taxes, therefore, has no significance under present conditions.

Assuming, for sake of discussion, that in the abnormal conditions prevailing during the war "income before income taxes" has lost much of its customary significance for stockholders—this may also be said to some extent of the income statement as a whole—it seems likely that, after the war, managements will wish to emphasize to their stockholders the results of their operating performance and the amount or proportion thereof which Government takes at that point. The higher the tax rates on corporate incomes after the war, the more likely this seems. Management psychology may be quite different in peace time than that which has influenced those companies which have felt led to adopt the "single-step" form of income statement in the abnormal conditions of wartime.

REGULATION OF ACCOUNTING

Beginning with the amendment of the Interstate Commerce Act in 1906, and following with the creation of public utility commissions by various states and of the Federal Power Commission by Congress, and more recently by the creation of the Securities and Exchange Commission with certain accounting powers granted by the Securities Acts, the Public Utility Holding Company Act, the Investment Company Act, etc., there has been increasing regulation of the accounting practices of certain classes of corporations.

Speaking generally, the activities of the Securities and Exchange Commission, in so far as they relate to accounting procedures, have been devoted primarily to securing the application of those accounting principles which over the years have become recognized in the accounting profession as sound and useful, and to require the disclosure in registration statements and reports filed with the Commission of all material facts, including those "necessary to make the statements therein not misleading." In considerable part, many of such disclosures appear as notes appended to, but forming an integral part of, the financial statements.

Most of the regulatory commissions are older than the Securities and Exchange Commission, and have a fundamental *raison d'etre* very different in one respect at least from the moving motive for the creation of the Securities and Exchange Commission, namely, the regulation of rates charged by public utilities for their services. Many of such commissions have gone far in exercising their powers to regulate the accounting procedures of the companies subject to their jurisdiction.

The commissions developed the "original cost" theory of property accounting (sometimes also referred to as "aboriginal cost") under which public utilities are required to segregate into separate accounts (a) the cost of utility property to the person who first devoted it to public use, and (b) the excess over such original cost of the cost to the utility company at present owning the property.

To the extent that a part of the actual cost of property owned and operated by a corporation (even when supported by demonstrable present value) should be regarded as of an inferior character than "original cost," and possibly be excluded from the rate base under the "prudent investment" theory of ratemaking—and this seems more or less implicit in both the devising of the regulatory requirements for "original cost" property accounting (which incidentally is not specifically authorized by law) and in the actions of the Federal Power Commission and various state commissions —it smacks somewhat of *ex post facto* proceedings. Were such a concept to be enacted as applicable to transactions effected after a given date, it might well be regarded as called for by social considerations and, due notice having been given, no injustice be done, but, to apply the concept retroactively to transactions effected years ago under laws which permitted them, seems contrary to the American idea of fair play.

A further consideration of fair play arose out of the report by a committee of the National Association of Railway and Utility Commissioners (termed NARUC) which had been appointed to study the subject of depreciation of utility plant. Comment and criticism were submitted by various bodies, representing the utilities, and by the Committee on Accounting Procedure of the American Institute of Accountants early in 1944. The Institute committee suggested clarification of the definition of depreciation in the NARUC committee's report, and discussed certain other phases of the report, but the vital criticism expressed was of the retroactive aspects of service life depreciation proposed in the committee's report. The regulatory commissions had for many years approved the use of the so-called retirement reserve method of property accounting under which most utilities made much smaller charges to income (and corresponding credits to reserves) for the eventual retirement of property than would have been made under service life depreciation accounting. The change from the former method to the latter with retroactive effect (reducing the surplus of the utility corporations, or in some cases even creating a deficit, by any excess of the accrued reserves called for under service life depreciation over the reserves accumulated under the retirement reserve method during the time it had been sanctioned by the commissions), which appeared to be called for by the report, seemed unjustifiable, and the Institute felt that some fair and practicable method of effecting a transition from one method to the other should be found.

The NARUC committee made a supplemental report later in the year, in which the various comments, criticisms, and suggestions made in writing or at hearings held by the committee were reviewed. With reference to the criticism that the proposed, or at least implied, immediate and general correction of reserve deficiencies would be inequitable and harmful, and that it would ignore the partial responsibility of the regulatory authorities for the existence of such deficiencies, the committee claimed that its recommendation had been misinterpreted and took a much more reasonable position on the question of the retroactive application of service life depreciation than that which was generally believed to be intended by the original report. It stated that the matter "should be approached with due regard to what is equitable and feasible under the circumstances of the individual case," and expressed the opinion that "for the great majority of utility properties immediate adjustment of the books to eliminate deficiencies in depreciation reserves is not necessary."

The report was submitted to the NARUC meeting held in Omaha in November but was merely accepted for "distribution." Apparently the various regulatory authorities are themselves not in entire agreement on this thorny question, and it remains in a sense "unfinished business."

CONCLUSION

As in so many other matters in these times, the demands and pressure of the war effort have resulted in directing attention largely to those questions of accounting principle and practice which are directly connected therewith, and to some lesser extent to the preparations needed to minimize the shock of the tremendous task of converting from a state of war production with so heavy a directing hand from Government to a condition of peacetime operation under a system of free enterprise. Consequently, but little attention could be given to study and research in respect of problems of accounting principle and practice which relate primarily to the operations of business under the more nearly normal conditions of peacetime. The resulting philosophy in the accountancy profession is that of carrying on during these fateful times, and of meeting as well as possible the problems arising out of these abnormal conditions. This, it might be observed, is in itself "quite a handful."

LIFE INSURANCE

By James S. Elston
Assistant Actuary, The Travelers Insurance Company

STATISTICS

The legal reserve life insurance in force Dec. 31, 1944 was about $148,400,000,000 or nearly 6 per cent greater than at the end of 1943, according to an estimate of the Life Insurance Association of America. The new paid-for business for the year, not including revivals or increases, is estimated to be $14,150,000,000, an increase of about 4 per cent over that of 1943. (The new issues figures in the table presented herewith include revivals and the excess of all increases over certain decreases.) This increase was despite the great number of agents in the armed services or in other war work. It is clear that again comparatively less insurance has lapsed or has been surrendered than ever before.

Group Life Insurance.—It is estimated that group life insurance in force increased in 1944 to $25,800,000,000 and that the insurance now covers 15,500,000 employees in 36,600 businesses and industrial organizations, or 40 per cent of all civilian nonagricultural employees in the United States.

Total payments and credits to policyholders and beneficiaries for 1944 were about $2,500,000,000, of which approximately $1,200,000,000 has been paid to beneficiaries of deceased policyholders and the balance to living policyholders.

Distribution of Company Income.—In a tabulation by the *Spectator* of 46 of the largest companies the distribution of $1.00 income for 1943 is about as shown in the next column. As about 21 per cent of the total income is received from interest, it will be thus seen that the interest received was considerably more than sufficient to meet all expenses and that, therefor, the total paid policyholders together with the amount reserved to meet future policyholder claims was actually greater than the premiums paid by policyholders. From a tabulation of 25 of the largest companies, it appears that in 1943 about 30 per cent of the claims were arranged to be paid under optional modes of settlement as campared with 12 per cent in 1930.

Death Benefits	$ .170
Paid Living Policyholders	.207
Settlement Options	.046
Added to Assets to Enable Companies to Pay Future Benefits	.401
Total	.824
Commissions and Agency Expenses	.065
Home Office Salaries	.020
Taxes and Fees	.023
Investment Expenses and All Other Operating Costs	.036
Total Expenses	.144
Asset Adjustments (Profit or Loss)	.032
Total	$1.000

Total assets amount to about $40,750,000,000, of which approximately $16,500,000,000 has been loaned to the Federal Government. The increase during the year in government bonds was about $4,000,000,000, or far greater than the increase in total assets for the year. This is possible because not only has the net excess of income over disbursements received during the year been invested in such bonds, but a considerable amount of previous investments which have matured or which have been sold (including policy loans repaid) have also been similarly invested. Approximately 40 per cent of the total assets are now in U. S. Government bonds compared with about 18 per cent when the United States was forced into the war.

A brief analysis from the *Spectator Insurance Year Book* of the assets Dec. 31, 1943 held by 305 companies is as follows:

Real Estate	$ 1,350*
Mortgages	6,701
Bonds	24,688
Stocks	606
Collateral Loans	5
Loans to Policyholders	2,373
Cash	874
Deferred and Unpaid Premiums	543
All Other Assets	626
Total Admitted Assets	37,766

* (Figures taken to nearest million).

Real Estate Holdings.—It is estimated that real estate at the end of 1944 was down to $1,100,000,000. The net holdings of foreclosed properties exclusive of those under contract for sale have been reduced to approximately $640,000,000. Of the nearly $3,000,000,000 taken over during the depression, well over $2,000,000,000 worth of farm and city properties have been rehabilitated and returned to individual ownership. Nearly $1,000,000,000 worth of these were sold during the three war years. The bulk of the farm properties and practically all of the city residences foreclosed under the distress conditions of the depression have now been sold, the greater part of those still to be disposed of being the larger housing properties and city business properties. Of the total sales for the year, approximately one-third were farm properties and two-thirds were city properties. In addition, the companies hold $120,000,000 farm and $90,000,000 city properties under contract of sale, leaving net holdings of $130,000,000 in farms and $510,000,000 in city properties, exclusive of $250,000,000 home office properties. The companies have very nearly completed the turnover of their real estate foreclosures without over-all net loss to the policyholders.

National Service Insurance.—The Administrator of Veterans' Affairs announced in November that there is now $125,000,000,000 of National Service life insurance in force under 16,500,000 applications.

DEVELOPMENTS AND TRENDS

As explained in more detail in the corresponding review for the year 1943, one of the principal problems of the companies is the low rate of interest on government bonds which constitute a continually increasing proportion of the assets. The average net rate earned by all companies in 1943 was about 3.28 per cent as compared with 5.03 per cent in 1930. Obviously a lower interest rate means a higher net cost of insurance.

An unknown but probably fairly large part of the increase in new business is in connection with pension trusts, explained in last year's review. Retirement income policies, designed to provide specific income at retirement age, have greatly increased in popularity in the past few years, purchases this year running double the number during the first war year, according to a survey on 1944 buyers, made by the Life Insurance Sales Research Bureau. At the same time, the average size of the retirement income policies bought has increased 40 per cent, with the result that the total amount of life insurance of this type being purchased this year is nearly 150 per cent greater than in the first war year. Purchases of this type of insurance now represent approximately one-eighth of all ordinary life insurance purchases by adults. Probably much of the increase is on pension trust business.

Some companies have placed more emphasis on juvenile insurance.

A few companies have begun to issue some forms of permanent life insurance as an alternative plan to term insurance under group insurance contracts. There are various reasons why these should appeal to employees but the administrative difficulties are very great.

PURCHASE OF INSURANCE BY FARMERS

Farmers and farm families have greatly increased their purchases of life insurance since the start of the war and now account for nearly one-fifth of all ordinary life insurance sales of the companies reporting to the American Service Bureau. The Institute of Life Insurance estimates on this basis that total life insurance purchases by the farm families are now

75 per cent above pre-war totals. The farmers of the country will this year purchase well over $500,000,000 worth of life insurance. Rural housewives have increased their purchases of life insurance by nearly 100 per cent above pre-war levels of 1941 and now represent nearly one-fourth of the farm purchases of life insurance, in numbers of policies.

POST-WAR PLANNING

One recent speaker on underwriting problems said: "Life insurance, like war production, did most of its worrying and planning before 1944. The current year saw the working out of the plans and methods previously developed. 'Reconversion' and post-war planning began to figure in our thoughts. With very minor exceptions, the companies continued to use war clauses previously adopted. The underwriting of those about to enter the armed forces and those deferred and discharged went along reasonably smoothly. Some demand continued for full coverage by civilians going abroad, but the volume has not been large and isn't increasing appreciably."

It begins to appear that after the war, aviation hazards will be covered by life insurance policies without many restrictions except on insured for whom there appears to be considerably more than average hazard at the time insurance is taken out.

POLICYHOLDERS DEATH RATES

During 1944, the death rate among civilian life insurance policyholders has remained practically unchanged from that for the previous year, in spite of the most serious influenza-pneumonia epidemic in many years. The average of the three war years shows a civilian death rate lower than any year prior to 1941. Including war deaths, the overall death rate among policyholders, when available, is expected to show an increase for the past year, the war deaths themselves accounting for 8 to 10 per cent of the aggregate. The increase in deaths among members of the armed forces was particularly marked during the latter half of the year, and the 1944 war death rate, when available, is expected to be more than four times that of 1943.

PREMIUMS AND RESERVES

During the year a number of companies changed their premium and reserve basis on new business from 3½ per cent to a 3 per cent basis and some large ones from 3 per cent to a 2½ per cent basis. Several companies have adopted a more conservative basis for annuity premiums and reserves and for options and trust agreements for the settling of claims in instalments.

Two more states have passed the proposed standard non-forfeiture and valuation provisions, thus making a total of 16 states with special laws, besides 12 others where it is assumed that the present laws permit the new standards. As explained in previous years, the proposed law, effective Jan. 1, 1948, is to provide that reserves on new business shall be on a modern mortality table and at a reasonable rate of interest under present conditions, all in accordance with the general consensus of actuarial opinion.

POST-WAR HELP FOR SERVICE MEN

Through the Committee on National Service Life Insurance of the Life Insurance Association of America plans are already being made to cooperate with the Federal Government in those measures which will best serve the interests of men in service after they return from the war. The Institute of Life Insurance reports that the companies are setting up definite plans to make certain that those who left to join the armed forces are quickly reestablished in satisfactory employment when they return. Some of the companies are making detailed individual case studies in an endeavor to place the returning veteran most effectively. Many companies are now setting up special programs for retraining these employees as they return to their jobs. Refresher courses are being established for both home office employees and agents in the field.

In all but a few instances, the survey also shows, the companies believe that, in addition to absorbing all employees returning from service, they can also keep those added during the war who wish to remain. In addition, a number of these companies expect to add materially to total personnel from other returning servicemen. With total life insurance in force today nearly 25 per cent greater than in 1940, there are some 15 per cent fewer persons employed in the business. At the same time, total life insurance personnel in the armed forces represents about 15 per cent of present manpower in the business. Several companies are now working out special plans for the employment of disabled veterans, cooperating with local offices of Veteran Rehabilitation, and at least one already has its plans successfully in operation.

INSURANCE AND INFLATION

In his presidential address before the Life Insurance Association of America, James A. Fulton recently emphasized the interest of the life insurance companies in preventing inflation as follows: "We must do everything we can to see that these dollars which are paid to beneficiaries have somewhere near the same purchasing power as the dollars which the insureds have paid to guarantee the future of these beneficiaries. The battle against inflation is primarily a fight to deflect dollars from spending to saving. A life insurance premium is a dollar saved and not a dollar spent. Life insurance is, therefore, always a powerful anti-inflation agency. Through the Anti-Inflation Advertising Campaign under the auspices of the members of the Institute of Life Insurance and the other associated companies, we have made a contribution to the Anti-Inflation Campaign being carried forward during wartime by the Government. I raise the question as to whether, in viewing the possibility of Post-War Inflation, we may not have to concern ourselves with much broader fields. Sound fiscal policy, a sensible tax program, and other factors will be the things in the future that will primarily determine whether the benefits for which our policyholders have sacrificed are to be whittled away by the depreciation of the value of the dollars which they and their beneficiaries receive."

More than 1,200 newspapers, including large dailies as well as weeklies, representing circulation of many millions, have used a series of anti-inflation cartoons furnished by the Institute of Life Insurance.

INSURANCE INTERSTATE COMMERCE

During the whole history of insurance in this country it has not been considered legally as commerce. Every Supreme Court decision since Paul *vs.* Virginia in 1868 has agreed with one in 1913 that "contracts of insurance are not commerce at all, neither state nor interstate." All kinds of insurance business were organized on this assumption and all the 48 states during the progress of development of the insurance business enacted what they considered suitable regulatory statutes.

On June 5, 1944, the Supreme Court in United States *vs.* South-Eastern Underwriters Association *et al.*, a case involving the fire insurance business, reversed this line of decisions in ruling that insurance companies are subject to the provisions of the Sherman Anti-Trust Act. Robert L. Hogg, manager and general counsel of the American Life Convention says: "This easily overshadows all other occurrences during the year and will almost undoubtedly continue to occupy a place in the forefront of insurance thought for a protracted period in the future." The dissenting justices called attention to some of the possible effects. The insurance commissioners of the various states are vitally interested.

Ever since the decision the insurance industry and the commissioners have been giving intense study and discussion in efforts to preserve state supervision and important state legislation with the result that there is an improved prospect that Congress will pass a measure, the more important features of which will be: 1. That the business of insurance and every person engaged therein shall be subject to the laws of the respective states which relate to the regulation of such business and which impose fees and taxes; 2. That Congress expressly declares that continued regulation and taxation of insurance by the states is in the public interest; 3. That the Federal Trade Commission Act or the Robinson-Patman Anti-Discrimination Act shall not apply to the business of insurance or the conduct of that business; 4. Until some early date neither the Sherman or Clayton acts

NEW ISSUES—TERMINATIONS—INSURANCE IN FORCE*

(Dollars in Millions)

Ordinary Business	1943	1942	1941	1940	1939
New Issues	$ 8,340	$ 7,387	$ 8,375	$ 7,506	$ 7,260
Terminations:					
Death	801	743	742	743	718
Maturity	194	176	175	190	184
Surrender	710	1,046	1,302	1,502	1,620
Lapse	1,458	1,713	1,743	1,870	2,034
Other	797	932	931	1,006	1,101
Total	3,960	4,610	4,893	5,311	5,657
Insurance in Force	91,777	87,125	84,364	81,069	78,814
Industrial Business					
New Issues	3,586	3,627	3,907	3,718	3,677
Terminations:					
Death	185	166	162	163	160
Maturity	129	89	86	83	55
Surrender	328	510	807	1,085	1,038
Lapse	1,321	1,521	1,508	1,730	1,767
Other	289	313	338	432	529
Total	2,252	2,599	2,901	3,493	3,549
Insurance in Force	25,571	23,346	22,280	21,344	21,140
Group Business					
New Issues	3,468	2,543	3,076	1,668	1,579
Terminations:					
Death	145	123	111	104	94
Lapse	159	338	110	73	82
Other	150	255	211	140	182
Total	454	716	432	317	358
Insurance in Force	22,961	19,862	18,029	15,381	14,023
All Lines of Business					
Number of Companies	305	303	304	305	306
New Issues	15,394	13,557	15,358	12,892	12,516
Terminations:					
Death	1,131	1,032	1,015	1,010	972
Maturity#	323	265	261	301	239
Surrender#	1,051	1,556	2,109	2,587	2,658
Lapse	2,938	3,572	3,361	3,673	3,883
Other	1,223	1,500	1,480	1,550	1,812
Total	6,666	7,925	8,226	9,121	9,564
Insurance in Force	140,309	130,333	124,673	117,794	113,977

* *Spectator Insurance Year Book*—All United States legal reserve companies.

# Including small amounts of Group Insurance.

shall apply to the business of insurance or the conduct of that business; 5. The Sherman Act may be considered applicable to any act of boycott, coercion, or intimidation; 6. The National Labor Relations Act and the Fair Labor Standards Act shall be applicable to the business of insurance.

INCOME—DISBURSEMENTS*

(Dollars in Millions)

	1943	1942	1941	1940	1939
Total Premium Income......	$4,421	$4,181	$4,080	$3,944	$3,825
Investment Income.........	1,368	1,339	1,269	1,231	1,201
Other Income..............	653	509	506	483	427
Total Income..........	6,442	6,029	5,855	5,658	5,453
Death Claims Paid.........	1,092	993	990	977	943
Matured Endowments.......	325	268	264	275	242
Annuities and Disability.....	285	293	293	284	269
Surrender Values Paid.......	295	454	573	689	732
Dividends to Policyholders...	410	435	430	456	456
Total Paid Policyholders	2,407	2,443	2,550	2,681	2,642
Other Disbursements........	1,374	1,297	1,277	1,233	1,185
Total Disbursements....	3,781	3,740	3,827	3,914	3,827

ASSETS—LIABILITIES—SURPLUS*

	1943	1942	1941	1940	1939
Assets....................	37,766	34,931	32,731	30,802	29,243
Liabilities.................	34,932	32,395	30,373	28,557	27,091
Surplus#..................	2,834	2,536	2,358	2,245	2,152

* *Spectator Insurance Year Book*—All United States legal reserve companies.

# Includes amount set apart for dividends to policyholders during following year and special, voluntary, contingency, etc., reserves.

FRATERNAL INSURANCE*

(Dollars in Millions)

Year	Number of Orders	New Business	Amount in Force (End of Year)	Assets (End of Year)	Total Income	Total Disbursements	Net Amount Received from Members	Paid for Claims
1943	182	$519	$6,496	$1,454	$236	$157	$166	$110
1942	184	467	6,337	1,402	228	157	161	109
1941	215	542	6,448	1,316	230	166	160	115
1940	215	522	6,282	1,253	223	166	158	118
1939	251	560	6,260	1,199	227	167	157	115

* *Spectator Insurance Year Book*—All U. S. Fraternal Orders showing figures.

FIRE INSURANCE

By Edward R. Hardy
Secretary-Treasurer, Insurance Institute of America, Inc.

FIRE LOSSES

The usual source, the National Board of Fire Underwriters, is used in presenting the figures of fire losses. These are given below, and for purposes of comparison are presented for three years, 1942, 1943 and 1944.

From this comparison it develops that the fire losses increased $43,000,000 in 1944, as compared with 1943, and $109,000,000 as compared with 1942. This substantial increase of 33 1/3 per cent in 1944 over 1942 is so large as to show at a glance that the loss by fire must have risen considerably in the past year. There were no fires which might be considered as conflagrations, so the rise in loss is owing to an increase in the number of fires, as well as to the loss per fire. The plain fact is that the art or practice of fire prevention has suffered from the withdrawal of trained personnel, which has lessened the effectiveness of the work of fire prevention and automatically made for increased losses.

FIRE LOSSES BY MONTHS

	1942	1943	1944
January	$35,565,000	$27,733,000	$38,572,000
February	30,819,000	33,175,000	38,280,000
March	30,505,000	39,214,000	39,084,000
April	27,960,000	34,241,000	34,746,000
May	23,233,000	29,297,000	32,815,000
June	22,410,000	26,854,000	30,555,000
July	21,000,000	25,016,000	32,706,000
August	19,680,000	29,193,000	30,618,000
September	20,443,000	26,488,000	31,448,000
October	22,621,000	29,661,000	32,173,000
November	24,144,000	31,647,000	33,847,000
December	36,469,000	47,716,000	48,694,000
Total	$314,849,000	$380,235,000	$423,538,000

THE STANDARD POLICY OF FIRE INSURANCE

The Standard Policy of fire insurance which was adopted in New York State July 1, 1943, and within a brief period adopted likewise by some 30 states, did not show much of an advance in the past year. There are certain states, notably in New England, which have their own standard policies, or modifications of the Massachusetts Policy, and these have not hastened to adopt the new one. Some other states, notably California, considered the question very carefully and decided to retain their own standard policies.

This movement for a standard policy throughout the country illustrates the difficulties of getting a uniform law put into effect in all 48 states. It should be pointed out that certain forms of loss, such as earthquake loss, are limited to small sections of the country, and in those sections it is extremely important that such loss be covered, and that this be expressly stated in the policy. It might be added that the new Policy has been adopted in all those states where a high percentage of the business is done.

WAR DAMAGE CORPORATION

The War Damage Corporation, organized in 1942 by the United States Government to take care of property damage caused by the war, has continued upon its way. At the close of the first year of its operation, July 1, 1943, the premiums collected were so large compared to the losses that there was a strong movement demanding that no premiums be collected for the second year. This suggestion was not adopted by the Government then, and the premiums were collected. With the approach of July 1, 1944, however, with losses almost infinitesimal as compared with the premiums collected, the Government extended all policies in existence for another year without the payment of premium. What will be the attitude for the year 1944-1945 can not be told but it would seem reasonable to extend the policies without premium again should losses continue at their low percentage as at the present time.

The Government does not set up any special machinery for the purpose of issuing these policies; all the work in connection with the selling of the policies is done by the fire and casualty insurance companies. The Government does insist that the premium for these policies shall be paid at the time the application is made.

THE ATLANTA CASE

Probably the most important thing that occurred in fire insurance, and for that matter other forms of property insurance, was the decision of the Supreme Court of the United States rendered June 5, 1944. This case which will be known in history as "The Atlanta Case" arose out of the following circumstances: It was in effect an attempt to overthrow a decision rendered by the Supreme Court of the United States in 1868. This decision was based on the case known as Paul *vs.* Virginia. A reference thereto is necessary in order to understand the far-reaching effects of the decision of 1944.

In the 1860's Paul was an insurance agent for fire companies in the State of Virginia. The companies he represented were not incorporated in Virginia. They were in a sense, so far as Virginia was concerned, foreign companies. Virginia placed a tax on these foreign companies before they were permitted to do business in that state. Paul declined to pay this tax taking the position that insurance was commerce, therefore subject to the jurisdiction of the United States and not to the individual states. Virginia proceeded to institute measures to collect the tax and the case was tried from the lowest to the highest court in Virginia, the decisions invariably being against Paul. After the highest court in Virginia had rendered its decision, the insurance companies decided to take the matter to the Supreme Court.

For historical accuracy it should be pointed out that the companies at that time were in hopes of having a decision upholding the decision of Paul. In other words, they wished the business of insurance to be declared commerce and so subject to the regulations of the United States. In 1868 the Supreme Court announced a decision to the effect that the business of insurance was not commerce and, therefore, not subject to United States control. Since that period, the question has been again raised before the Supreme Court for the purpose of overturning the Paul *vs.* Virginia decision. In all cases up to the Atlanta case, the Supreme Court has reaffirmed the Paul *vs.* Virginia decision.

When the question was raised in the Atlanta case, the decision in Atlanta by the judge who heard it was to the effect that for 75 years the business of insurance had been controlled by the Paul *vs.* Virginia decision and if that decision was to be reversed the reversal should be by the Supreme Court because not only in the original case in 1868 but several times thereafter the Supreme Court had reaffirmed that decision.

Since the decision of 1868 the business of insurance has been built on the legal understanding that the states had complete jurisdiction, except possibly in the District of Columbia where the United States Government controls all other matters, but in all the states the business was subject to state control. It is needless to point out that the enormous growth of the business of insurance in these 75 years, and that growth predicated on a certain form of control and supervision, suddenly found itself more than disturbed (shocked may be the proper word) by the decision overturning the proceedings of three-quarters of a century. It can be stated to the credit of both parties that no severe disturbance has been allowed to occur in the control of insurance by this latest decision, but as time goes on, and probably bit by bit, there will be invariably a reaching out of the United States Government to see that nothing which is done shall not be in accordance with the decision that insurance is commerce and so subject to the control, up to a certain point at least, of the United States Government.

WAR PLANTS AND FIRES

There is an increasing apprehension on the part of the Government concerning fires which occur in properties devoted to war production or to the storage of goods which are already manufactured, or raw materials from which goods are to be manufactured. The National Fire Protection Association in its fifth edition of *Wartime Fires*, dated July 1, 1944, stresses the fact of this increase. There is no evidence that sabotage plays an important part in the starting of these fires either in wartime or in other plants. Stress should be laid on the fact, however, that the same means of controlling a fire are effective whether the fire be purposely started or because of accident. One instance of how a fire may start because of failure to obey orders is stated in the following language: "This Portland, Maine, warehouse with valuable contents burned on April 14, 1944. A truck kept in the warehouse overnight, contrary to regulations, ignited rubbish when it was started in the morning. Fire rapidly involved the building in the absence of any effective barrier to the spread of flames."

AMOUNT OF BUSINESS

The amount of business is represented by the premiums, which is the test, and which has shown a steady decrease. The total premium receipts for the last available year were $1,334,491. The reason for the decrease is the large number of formerly private properties now engaged in government work, and the various governing bodies who control rates in many of the states are always instigating reduction in rates with the result that the push of the average rate is steadily downward. This may be checked by the severe fire losses in 1944 but only the future can tell whether this will be so or not.

MARINE INSURANCE

By Henry C. Thorn

Manager, Marine Department, Insurance Company of North America

GENERAL

As this review is written, it would appear that the war with Germany is approaching the end, but whether weeks or months are to elapse before an armistice actually occurs is anyone's guess. One thing is certain, however, and that is, that the German submarine campaign's back has been broken. The occupation of France, with the three most important submarine bases now in Allied hands, seems to have been a crowning achievement of the Allied campaign. The submarine is now the hunted, rather than the hunter, although undoubtedly Allied vessels will be sunk from time to time until the war is over.

WAR RISK REDUCTIONS

All of this, of course, has been reflected in the numerous war risk reductions that have occurred as the situation improved, until at the present time we find an average war rate which is somewhat less than that which was in existence at the time of "Pearl Harbor." It would seem that the underwriters have been as quick to recognize improved conditions as they were to increase rates when the shoe was on the other foot. The scale of rates is too well known to need comment here, but one outstanding example is the voyage between New York and the River Plate. Two years ago the rate was 25 per cent, today it is 1 per cent.

GOVERNMENT WITHDRAWAL FROM CARGO INSURANCE

Perhaps the most outstanding evidence of the market's ability quickly to adjust its scale to the improved situation is the almost complete retirement of the U. S. Government from the field of cargo war risk insurance. This has been a gradually accelerated process until at the present time the War Shipping Administration is limiting its coverage to one or two commodities, the principal one being coffee, on which a more or less token rate is charged for the purpose of keeping the landed cost of the commodity within the price ceilings that have been established. While the Government, for all practical purposes is out of the business of cargo war risk insurance, the machinery is all set up, and operations can quickly be resumed if the war risk conditions should warrant. This appears, however, highly unlikely.

It can be said again this year that the American Cargo War Risk Reinsurance Exchange which commenced operations on June 10, 1939, has more than served the purpose for which it was created and is continuing to function smoothly. That it has eased the entire process of handling war risk insurance for both the assured as well as the broker and underwriter, can not be denied.

SETTLEMENTS FOR LOSSES IN DUTCH EAST INDIES SHIPMENTS

One very important contribution in war risk insurance which must have afforded considerable relief to merchant and bankers, was the arrangement worked out in collaboration with the London market, whereby *ex-gratia* settlements were made for losses of shipments consigned to places in the Dutch East Indies other than Java but discharged at Javanese ports (other than an actual port of transhipment) and subsequently lost by enemy action. In the settlement of these complicated claims both markets acted in a very generous manner.

1944 MARINE SURCHARGE AND EXTENDED TRANSIT RATES

In May, 1944 some drastic reductions were made in the combined Marine Surcharge and Extended Transit rates, but these reductions applied only to cargo insured on conditions that excluded the risks of theft and pilferage, and if improved experience and the limited form of coverage warranted such reductions. To date, however, there does not seem to be any particular improvement in so far as claims on shipments insured on full form conditions are concerned. In fact, the trend would in many cases appear to be in the opposite direction.

MATERIALS FOR EXPORT PACKING

This brings us to the problem of packing, much of which is unquestionably inadequate for overseas shipments. Although the vital importance of this matter is well known, it seems that in many instances shippers are faced with an absolute inability of securing the necessary materials which are suitable for export packing. Although we have referred particularly to export packing, deterioration in containers of all types, both import and export, are becoming increasingly evident. Secondhand containers are being used freely and certainly many flimsy forms of packing, even when new are totally inadequate when they are used time and again.

TREND TO PRIVATE IMPORTATIONS OF KEY COMMODITIES

American export business, owing to war conditions, has slumped very considerably, and according to United States Government figures, in one recent month 80 per cent of all exports were Lend Lease shipments and thus uninsured. As regards goods coming to America, the Government is the largest importer of key commodities and, therefore, the Government's Marine Insurance, which is spread very generally throughout the market, has become the largest Cargo Premium producer for the Marine underwriter. The indications are that the trend back to private importations of these key commodities has started and undoubtedly will continue.

STANDARDIZATION OF CARGO CLAUSES

For sometime past the market has felt that it would be desirable to have certain standard clauses to be known as the American Institute Cargo Clauses. A start had been made by the issuance of certain forms, some with the Warehouse to Warehouse clause, others with the Marine Extension Clause, and in one case with the old F. C. & S., and in the other case with the new F. C. & S. The insuring conditions in these forms are F.P.A., but provision has been made in the forms which will make it possible for them to be used on risks written on broader terms with a minimum of mechanical difficulty. Undoubtedly this work will be carried on as time permits, with the idea of bringing about a greater standardization in the fundamental wording of the policies.

OCEAN HULLS

By this time it is fairly well established that the years 1942 and 1943 were unsatisfactory but a certain amount of optimism would seem justified in connection with the immediate future. This optimism must necessarily be tempered with the knowledge that there is still a fairly substantial portion of American flag tonnage 25 years of age and over, and at the most critical time in the life of these ships they are not receiving the proper care and upkeep partly because of the lack of repair facilities and also the urgent need of vessels. On the other hand, optimism is justified through the knowledge that many of the old vessels have been lost through war perils and others have been taken over by the Government on a basis that does not call for them to be insured with commercial underwriters, and these vessels are being replaced all the time with new tankers and new "C" type vessels which are currently being insured. Such insurance, of course, will fall under the Master contract with the War Shipping Administration. This contract or agreement became effective as of Dec. 1, 1943, but until recently only a relatively small number of vessels has been attached.

It may be of interest to mention the method by which the market arrived at the basis of premium charged on vessels declared under the agreement. Vessels were classified as dry cargo, tankers, and colliers, and whether new or old. New ships are those built in 1934 and thereafter. Old ships are those built prior to 1934. The Syndicate's loss experience from Dec. 7, 1941 was developed which covered losses happening under wartime conditions. From these figures the loss cost per gross ton was calculated, and in arriving at this figure due consideration was given to the fact that under the Agreement the American F. C. & S. Clause would apply, and also whether or not the then existing policies were written subject to Deductible Averages and restricted trading warranties. After taking all of these factors into consideration a premium charge per gross ton for insurance on Full Form Policy with worldwide trading limits was reached for the respective classifications.

Further factors which would seem to justify optimism are that masters are now more accustomed to sailing in convoy and there are more aids to navigation in evidence, and the complete blackout has been diminished. Further, should the war in Europe come to a termination within the next few months, this alone would be of benefit to the 1944 hull account.

BUILDER'S RISKS

Early in June a gratifying decision was reached by the United States Maritime Commission, which decided to resume the placing of Full Form Builder's Risks insurance with the Syndicate on certain types of contracts. A special Builder's Risks form has been adopted, which is substantially similar to the old Full Form Builder's Risks policy. Underwriters appreciate the farsightedness of those responsible in the War Shipping Administration and Maritime Commission for the decision to place insurance with the market, keeping it active during these war years. On several occasions Admiral Vickery and others have stated that, for a healthy post-war American Merchant Marine, there must also be a healthy American Marine Insurance market. It is hoped that in the post-war years the American market will justify the constructive steps the above named departments of the Government and also the Navy Department have taken.

CASUALTY INSURANCE AND CORPORATE SURETYSHIP

BY WILLIAM LESLIE

GENERAL MANAGER, NATIONAL BUREAU OF CASUALTY AND SURETY UNDERWRITERS

THE ACCIDENT RECORD

Traffic deaths during the first ten months of the year 1944 were 18,480, less than one per cent increase over the total for the corresponding months of 1943. However, the increase occurred during the first half of the year; beginning in July the estimated monthly tolls were consistently less than in corresponding months of 1943, with indications toward the close of the year that the final total of traffic deaths for 1944 might be no greater, and possibly less, than the 23,400 killed in 1943. It seems probable that this condition is accounted for partly by the fact that early in 1944 there was a marked tendency of drivers to ignore the war emergency speed limit of 35 miles an hour, while this tendency diminished as the year wore on and drivers became more careful of their cars and tires.

For the first ten months of 1944, occupational accidents resulted in approximately 15,100 deaths, two per cent less than the total number of fatalities in the same period of 1943. In general, the accident prevention record in American industries during the present war has been excellent, owing in no small part to the sustained efforts of the private casualty companies and the insurance-maintained National Bureau for Industrial Protection in Washington, which supplies the Government with reports of insurance inspectors on accident conditions in vital war plants.

At the close of October, the estimated total of accidental deaths of all types stood at 77,700, a reduction of 2,600 or three per cent from the toll of 80,300 for the same months of 1943. It seems likely that the total of all accidental deaths for 1944 will be somewhat less than the 97,500 in 1943.

In studying these estimates (Nat. Safety Council Data) and trends for 1944, it should be borne in mind that indications for only the first ten months were available at the time of writing.

STATE LEGISLATION

General.—During 1944, eight state legislatures met in regular session, and 47 special sessions were convened principally for the purpose of considering servicemen's voting. There was a considerable volume of legislation affecting casualty insurance and corporate suretyship.

Workmen's Compensation.—As a result of the sweeping investigation by the Stichman Committee into the administration of the Workmen's Compensation Law in New York, a series of important amendments, principally designed to tighten the medical provisions and to increase benefits, were enacted. In addition, the New York Legislature passed laws affecting the powers of the Industrial Board, making employers liable for state hospital care, creating a veteran's second injury fund, permitting referees to determine serious disfigurement cases and increasing the expense allowance for vocational rehabilitation. Virginia extended compensation coverage to occupation diseases and New Jersey established an elective system of compensation for silicosis and asbestosis. South Carolina and Louisiana enacted some workmen's compensation amendments of minor importance. Mississippi is still the only state without a workmen's compensation law, several bills proposing such a law having failed of enactment.

Automobile Financial Responsibility.—A new automobile financial responsibility law, effective Jan. 1, 1945, along the lines of the New York Law with certain deviations, was enacted in Virginia, which also enacted a law regulating air carriers and providing for liability insurance on such carriers. There were some amendments of a technical nature to the New York automobile financial responsibility law. New Jersey enacted a rating law similar to the New York Law. Of interest in the field of corporate suretyship was the failure of a bill in New York creating a public works bonding fund and dispensing with the requirement for performance bonds on public construction.

FEDERAL LEGISLATION

Among the measures which the 78th Congress enacted was the Contract Settlement Act of 1944 providing for the settlement of claims arising from terminated war contracts, which law is of particular interest to corporate suretyship. Some of the proposals which failed of passage were the following: a bill to establish a Federal Fidelity Bonding Board to bond Federal employees; a bill covering war risk injuries sustained by persons within the continental United States; several bills which indirectly would have resulted in bringing the Federal Government into the field of aviation insurance; and bills introduced in both the House and the Senate to exclude insurance companies from the Federal anti-trust laws.

SUPREME COURT DECISION ON INSURANCE SUPERVISION

On June 5, 1944 the United States Supreme Court in the case of the United States of America *vs.* South Eastern Underwriters' Association (64 S.C.R. 1162) held that insurance is commerce, thus reversing previous decisions of the Court over a period of years beginning with 1868 in the case of Paul *vs.* Virginia. The immediate effects of the decision are (1) to subject insurance to various Federal statutes which were never designed for application to the business of insurance, such as the Sherman and Clayton Anti-Trust acts and the Federal Trade Commission Act; (2) to subject insurance to such further Federal regulatory acts as Congress may at any time see fit to enact, and (3) to throw into the realm of doubt and uncertainty many state regulatory laws.

Attempts were made to secure the enactment of legislation by the 78th Congress which would declare it to be the intent of Congress to leave to the respective states the regulation and taxation of insurance companies, and would clarify the situation of the companies with respect to the Sherman and Clayton acts, the Federal Trade Commission Act, and the Robinson-Patman Act, so that they might continue to establish actuarially sound rates from combined experience and follow cooperative practices in the public interest. The 78th Congress adjourned without the enactment of such legislation and renewal efforts along this line are anticipated early in the session of the incoming Congress.

WORKMEN'S COMPENSATION INSURANCE

The new rating program that was introduced late in 1943 to grade the expense allowances for all risks developing annual premiums of $1,000 or more has met with general approval and is now in effect in 26 states and the District of Columbia. Under this program, a guaranteed discount reflecting a gradation in the expense allowance is applied unless the assured elects in advance one of three optional retrospective rating plans reflecting same expense gradation. A marked increase in the number of risks electing retrospective rating occurred during 1944, testifying to the merit of this new program from the standpoint of the insuring public.

The insurance carriers have assisted the National Association of Insurance Commissioners in drafting a Casualty Insurance Expense Exhibit designed to obtain countrywide expense data by line of business. Detailed instructions for complying with this call have also been prepared in order to assure uniform reporting by the large number of companies in this field. It is anticipated that the first reporting to the state authorities will cover the business of the calendar year 1945.

A supplementary problem that has received the attention of the insurance industry is the analysis of expense ratios by size of risk, particularly for Workmen's Compensation insurance. The principle of gradation of expense has been recognized in rate-making, and studies designed to obtain up-to-date factual information on this problem will be made as soon as practicable. In the meantime, preliminary consideration is being given to the methods to be employed in performing this difficult expense analysis.

The trend of Workmen's Compensation rates continued downward during the past year. The ratemaking procedure still provides for the determination of revised rate levels on the basis of the two latest available years of experience for each state. High wage levels and a maximum of employment have had a favorable effect on the experience, and rate levels have been forced down to the point where they will unquestionably be inadequate should a change in employment and wage conditions occur. In recognition of this problem, consideration is currently being given by the Insurance Commissioners to the introduction of a wage or trend factor in the rate-making procedure. Such a program should make the rate structure more responsive to changes in industrial conditions which affect the Workmen's Compensation experience.

MISCELLANEOUS LIABILITY INSURANCE

A program for the writing of comprehensive personal liability insurance was adopted in 1933. Important changes in this program were introduced in 1944, resulting in substantial broadening of coverage and reduction in rates. The revised comprehensive personal liability policy is a well rounded and simple insurance contract covering the personal as distinguished from the business acts of the insured. It consists of separate insuring provisions for liability and medical payments coverage. The liability provision includes bodily injury, property damage, and employers' liability insurance subject to a single standard limit of $10,000 per occurrence.

The medical payments provision applies to the residence premises and residence employees and is subject to a separate standard limit of $250 per accident. Important underwriting changes were introduced for employers' liability insurance for residence risks. The employers' liability program for farms was amended to include an optional exclusion relating to persons employed in violation of law as to age.

The rules for exclusion of overtime wages in the determination of premium for manufacturers' and contractors' liability insurance were made applicable in a number of other states during the year so that they now apply in all states with few exceptions.

Continued cooperation with Federal and other governmental agencies and divisions with respect to rating problems arising because of war conditions resulted in the following more important developments: (1) substantial reduction in the rates for owners' protective liability insurance for housing projects receiving Federal aid and also for housing projects in New

York receiving state aid; (2) material reduction in the rates applying for the Defense Plant Corporation; and (3) adoption of a liability rating program for insureds employing prisoners of war, covering injuries to or caused by such prisoners, for which the insured may be liable.

AUTOMOBILE LIABILITY INSURANCE

During 1944 the casualty insurance companies continued in effect the wartime automobile liability rates announced for some classifications in 1942 and for other classifications in the early part of 1943 in recognition of the restrictions under which automobiles were operated. During the year the standard provisions for automobile liability policies were amended to (1) include Bail Bond Expense Coverage, (2) broaden the coverage for the use of other private passenger automobiles, and (3) broaden the medical payments coverage to apply while the named insured or spouse is using another automobile. All of these improvements in policy coverage were made available without additional premium charge.

The standard provisions for the basic automobile liability policy have not been revised for about three years. Introduction of the extensions of coverage mentioned above drew attention to the desirability of a revision of the policy to express the broad coverage now given, in briefer and simpler language and form. Such a revision has been undertaken.

The favorable underwriting results experienced by the companies during the first part of 1943 were, unfortunately, not continued during the last quarter of 1943 or during 1944. During the latter periods an increased accident frequency and higher loss costs had begun to cause concern over the future results for the companies on the basis of the present rather low wartime emergency rates.

ARMY POST EXCHANGES, NAVY SHIP'S SERVICE DEPARTMENTS AND SIMILAR RISKS

As a further contribution to the war effort and to meet the peculiar insurance needs of Army Post Exchanges, Navy Ship's Service Departments and similar risks in the United States of branches of the armed forces of the United States, simplified, multiple line policies on a special rating basis were established for the duration of the war.

BOILER AND MACHINERY INSURANCE

After months of arduous work involving meetings almost continuously, the Joint Committee composed of representatives of the two groups of carriers, which had issued separate manuals in 1943, developed rules and rates for application in the State of New York in accordance with the request of the Superintendent of Insurance of that state. While the two manuals are not physically identical, the effect is to produce substantially the same coverage and rates for any given risk. The limited volume in this line of insurance, coupled with the absence of any known factors which would require or justify any rate variations by territory, led to these manuals being made applicable in all but one state.

The new manuals combine the best features of the previous manuals in use by the two groups of carriers, with certain improvements over either previous manual. The unsatisfactory situation formerly existing as a result of variations in classification systems, premium bases, or extent of coverage has been eliminated and in consequence the public interest is better served.

Since the manuals reflect the coverages set forth in the policy forms, it was also necessary to review all policies, schedules, and endorsements, and the majority of these were revised. The more important changes effected related to definitions of "Accident." The principal change in the coverage afforded on boilers is that, in order to come within the definition, "a sudden and accidental burning or bulging" must result from internal pressure or deficiency of liquid or vapor in the object and must immediately prevent or make unsafe the continued use of the object. For machinery objects, the revised definitions establish a new approach, specifying the type of occurrence constituting an accident, with no reference to impairment of functions.

BURGLARY, THEFT AND ROBBERY INSURANCE

Comparatively few changes took place in this field during 1944; however, attention was given to the development of the residence and outside theft policy which was introduced in 1943. This policy was broadened by the elimination of the 60-day limitation on outside theft coverage on dwellings occupied on a temporary basis. The money and securities broad form policy was developed during the year to a considerable extent. This policy covers money and securities against all risks and, since the adoption of the rule permitting its issuance on a blanket basis, has proved very popular. War activities have increased the demand for open stock burglary insurance on merchandise difficult to replace.

ACCIDENT AND HEALTH INSURANCE

The most striking development in this branch of insurance in the last two or three years has been the remarkable growth of group insurance and of the various Blue Cross plans for hospitalization. In spite of the fact that so many of the younger men are in the Armed Forces, the volume of individual accident and health policies has shown some increase, and there has been a great increase in accident insurance for women both in industry and in the home. All told, it has been estimated that possibly as many as 40,000,000 persons are covered by some form of accident and health or hospitalization insurance. The extension of individual policies to members of the Armed Forces within Continental United States has been continued on the same basis as heretofore.

SURETY BONDS

In comparison with the activity in the fidelity and surety business in some of the very recent years, the year 1944 found the surety line in the doldrums. When the annual statistics are compiled, it will be found that there has been a further decline in surety premiums while fidelity premiums have kept approximately on an even keel with those of 1943. The decline in surety writings will be mainly in the contract bond field, owing to the completion of the construction programs of the Armed Services and to the wartime restrictions on nonessential civilian and public construction. As a result of these emergency restrictions, there has grown up a very substantial backlog of normal construction which will have to be undertaken just as soon as the war-time conditions are eased. In addition to these accumulated projects, the year 1944 demonstrated that post-war planning by the Federal, state, and municipal governments envisages abnormal construction activity as one of the means of facilitating conversion to a peace-time economy.

The surety industry's attention during this poor writing year was turned to the solution of anticipated post-war problems in contract bonding. The industry's post-war plans are pointed toward a great and effective use of contract bonds in facilitating and stabilizing the Federal, state, and municipal building programs now being so carefully blue printed.

The Co-ordinator Plan established by the surety companies in Washington late in 1942 to aid the Army and Navy in correcting errors in bonds and for the purpose of obtaining rapid execution of consents of surety has been functioning splendidly. Only recently the War Food Administration, faced with the necessity of modifying by rider a larger number of bonds executed in connection with one of its programs, called upon the surety companies to assist it in accomplishing its objective through the medium of the Co-ordinator Plan. It is a glowing tribute to the cooperative spirit of the surety companies operating under the Plan that, in aid of the war effort, almost every one of the interested companies consented to the extension of the Plan's facilities to the requirements of the War Food Administration.

Still another contribution to the war effort made by the fidelity and surety business during 1944 is worthy of mention. Because of the widespread purchase of war bonds by the American people, almost every one is acquainted with the recent plan promulgated by the Treasury Department which permits the redemption of war bonds through local banking institutions. It is obvious that the operation of this simplified method of redemption imposes an additional risk upon the redeeming bank in the event of the cashing of forged or altered bonds. Recognizing the importance of this new method of redemption, the interest of the general public, and the need for the extension of the bank's coverage to the hazards described, the fidelity companies have recently undertaken to cover the risks involved without any additional premium charge.

NET PREMIUMS WRITTEN

(By kind or type of insurance, by all U. S. casualty companies, including state funds, in the calendar years 1940–43).

Kind of Insurance	Net Premiums Written in Calendar Years			
	1940	1941	1942	1943
1. Workmen's Compensation...	$357,497,991	$445,361,768	$590,984,782	$650,417,182
2. Automobile Bodily Injury...	311,621,457	357,178,119	350,267,017	284,627,763
3. Automobile Property Damage Liability.............	94,562,967	107,828,484	114,338,583	111,296,922
4. Auto Collision..............	39,363,410	55,209,388	52,692,545	49,305,698
5. Liability other than Auto. ..	103,754,906	109,372,228	120,903,698	127,027,068
6. Property Damage and Collision other than Auto.	7,496,170	9,805,732	12,429,373	14,356,381
7. Fidelity and Surety.........	92,381,628	102,318,490	111,564,951	90,511,444
8. Accident and Health........	129,875,488	135,369,287	144,126,799	164,312,867
9. Burglary and Theft.........	28,810,478	31,006,421	34,094,794	39,583,159
10. Glass.....................	11,930,289	11,955,569	13,064,456	12,921,875
11. Boiler.....................	9,429,933	10,393,522	10,741,103	12,148,524
12. Machinery.................	5,878,660	8,799,048	8,796,709	9,486,887
13. Credit.....................	5,016,576	4,025,810	6,550,623	6,359,256
14. Live Stock.................	579,912	816,614	1,062,758	1,324,135
15. Sprinkler..................	656,686	728,384	845,599	912,355
16. Auto Fire, Theft, Tornado, and other Miscellaneous Lines..................	21,887,344	18,736,665	17,374,792	28,081,838
Total...............	$1,220,743,895	$1,408,905,529	$1,589,838,582	$1,602,673,354
Number of Companies......	409	410	408	433

PERIODICAL PUBLICATIONS

Accounting Review
Tappan Hall, University of Michigan, Ann Arbor, Mich.

Annals, The
American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia.

American Banker
32 Stone Street, New York City.

American Business Combined With System
4660 Ravenswood Ave., Chicago.

American Economic Review
Northwestern University, Evanston, Ill.

American Exporter
386 Fourth Ave., New York City.

American Import and Export Bulletin
10 Bridge Street, New York City.

American Insurance Digest and Insurance Monitor
605 North Michigan Ave., Chicago.

Banking
American Bankers Association, 22 East 40th Street, New York City.

X. BUSINESS AND FINANCE

Banking Law Journal
465 Main Street, Cambridge, Mass.
Barron's
40 New Street, New York City.
Bond Buyer, The
67 Pearl Street, New York City.
Business Week
330 West 42nd Street, New York City.
Commercial and Financial Chronicle
25 Spruce Street, New York City.
Controller
1 East 42 St., New York City.
Credit World
1218 Olive Street, St. Louis, Mo.
Eastern Underwriters
41 Maiden Lane, New York City.
Financial Age, The
132 Nassau Street, New York City.
Financial World
86 Trinity Place, New York City.
Fortune
9 Rockefeller Plaza, New York City.
Harvard Business Review
330 West 42nd Street, New York City.
Insurance
116 John St., New York City.
Insurance Advocate
123 William Street, New York City.
Insurance Field
234 W. Liberty St., Louisville, Ky.
Insurance Law Journal
27 Cedar St., New York City.
Journal of Accountancy, The
13 East 41st St., New York City.
Journal of American Insurance
919 North Michigan Ave., Chicago.
Journal of Business
5750 Ellis Ave., Chicago.
Journal of Commerce
63 Park Row, New York City.
Life Association News
11 West 42nd Street, New York City.
Life Insurance Courant
Oak Park, Ill.
Magazine of Wall Street, The
90 Broad Street, New York City.
N. A. C. A. Bulletin (Bulletin of the National Association of Cost Accountants)
385 Madison Ave., New York City.
Nation's Business
Chamber of Commerce of the United States, Washington, D. C.
National Underwriter
420 E. Fourth St., Cincinnati, O.
Spectator
Chestnut and 56th St., Philadelphia.
Standard
89 Broad Street, Boston.
Trusts and Estates
50 East 42nd Street, New York City.
Weekly Underwriter
116 John Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

ECONOMICS

American Academy of Political and Social Sciences, 3457 Walnut Street, Philadelphia.
American Accounting Association, University of Indiana, Bloomington, Ind.
American Chamber of Commerce for Trade with Italians, Inc., 105 Hudson St., New York City.
American Economic Association, Northwestern University, Evanston, Ill.
American Fair Trade Council, Inc., 11 West 42nd St., New York City.
American Home Economics Assn., 620 Mills Bldg., Washington, D. C.
American Institute of Accountants, 13 E. 41st St., New York City.
American Institute of Weights and Measures, 33 Rector St., New York City.
American Petroleum Institute, 50 W. 50th St., New York City.
American Retailers', Inc., 128 W. 31st St., New York City.
American Statistical Assn., 1603 K St., N.W., Washington, D. C.
Better Business Bureau, Nat'l., 405 Lexington Ave., New York City.

Chamber of Commerce of the United States of America, 1615 H St., N.W., Washington, D. C.

Controllers Institute of America, 1 East 42nd St., New York City.

Co-operative League of U. S. A., 167 W. 12th St., New York City.

French Chamber of Commerce of the U. S., 4 E. 52nd St., New York City.

General Society of Mechanics & Tradesmen of New York City, 18 W. 44th St., New York City.

Home Market Club, Inc., 38 Chauncy St., Boston, Mass.

Institute of Economics, 722 Jackson Pl., Washington, D. C.

Institute of Internal Auditors, 120 Liberty St., New York City.

International Accountants' Society, 3411 S. Michigan Ave., Chicago.

Mellon Institute of Industrial Research, 4400 Fifth Ave., Pittsburgh, Pa.

National Assn. of Cost Accountants, 385 Madison Ave., New York City.

National Assn. of Credit Men, 1 Park Ave., New York City.

National Assn. of Real Estate Boards, 22 W. Monroe St., Chicago, Ill.

National Bureau of Economic Research, Inc., 1819 Broadway, New York City.

National Foreign Trade Council, Inc., 26 Beaver St., New York City.

National Research Council, 2101 Constitution Ave., Washington, D. C.

National Wholesale Grocers' Assn. of the U. S., 60 Hudson St., New York City.

New York Stock Exchange, 11 Wall St., New York City.

Order of United Commercial Travelers of America, 632 N. Park St., Columbus, O.

BANKING AND CURRENCY

American Bankers Assn., 22 E. 40th St., New York City.

American Institute of Banking, 22 E. 40th St., New York City.

Investment Bankers Assn. of America, 531 First National Bank Bldg., 33 S. Clark St., Chicago, Ill.

National Assn. of Mutual Savings Banks, 60 E. 42nd St., New York City.

New York Clearing House Assn., 77 Cedar St., New York City.

United States Savings and Loan League, 221 N. La Salle St., Chicago, Ill.

INSURANCE

Actuarial Society of America, 393 Seventh Ave., New York City.

American Institute of Actuaries, 393 Seventh Ave., New York City.

American Institute of Marine Underwriters, 99 John St., New York City.

American Life Convention, 230 Michigan Ave., Chicago, Ill.

American Management Association, 330 West 42nd St., New York.

American Marine Insurance Syndicates, 99 John St., New York City.

Association of Casualty & Security Executives, 60 John St., New York City.

Casualty Actuarial Society, 90 John St., New York City.

Institute of Life Insurance, 60 E. 42nd St., New York City.

Life Insurance Association of America, 165 Broadway, New York City.

Life Insurance Sales Research Bureau, 115 Broad St., Hartford, Conn.

Life Office Management Assn., 110 E. 42nd St., New York City.

National Assn. of Life Underwriters, 11 W. 42nd St., New York City.

National Assn. of Mutual Casualty Cos., 919 Michigan Ave., Chicago, Ill.

National Board of Fire Underwriters, 85 John St., New York City.

National Bureau of Casualty & Surety Underwriters, 60 John St., New York City.

National Council on Compensation Insurance, 45 East 17th St., New York City.

National Fire Protection Assn., 60 Batterymarch, Boston, Mass.

National Travelers Aid Assn., 425 Fourth Ave., New York City.

Surety Assn. of America, 60 John St., New York City.

DIVISION XI

AGRICULTURE AND ALLIED INDUSTRIES

CONDITIONS IN AGRICULTURE

By Arthur P. Chew
United States Department of Agriculture

Agriculture in the United States has demonstrated a tremendous capacity to produce for the war effort. In 1944 the estimated total agricultural production was 33 per cent above the average for the period 1935-39, and the estimated total food production 36 per cent greater. Agriculture achieved this record-breaking output with the smallest average number of workers on farms in the whole 35-year period for which there are farm employment estimates, and against the handicap of shortages in machinery, fertilizer, and other agricultural supplies.

American agriculture can produce, with normal weather, about one-third more than it produced on the average in the pre-war years. It could go higher. When the war ends, it will have more land, labor, machinery, and technology available, with which in a short term of years it might produce up to 50 per cent more than it did before the war. As a reminder of its productivity, there is the fact that it has supplied vast quantities of food for the fighting forces and our Allies, and at the same time provided increased quantities for civilian consumption within the United States. The food civilians had in 1943, for example, provided more of every nutrient per capita than civilians had in the pre-war (1935-39) years.

CROP ACREAGE AND GOALS

Many crops went in late in 1944; yet the acreage of principal crops harvested in 1944 totaled about 352,000,000—about 1½ per cent more than the acreage harvested in 1943, and about 9 per cent more than the acreage harvested in 1939. In fact, the harvested acreage was the largest since 1932. Except where floods and other obstacles interfered, farmers planted practically all the available productive crop land. The acreage devoted to grains, hay, and forage crops exceeded 300,000,000 and each crop was close to the goal. Farmers grew somewhat more oats, somewhat less hay, somewhat more sorghums, and somewhat less corn than had been considered desirable. The deviations from the goal acreages for principal crops were small, however, in view of the difficulties encountered in the planting season. Acreages devoted to other crops, though in many cases below their goals, were as large as the farmers believed they could handle.

In general, the crops that required a large amount of labor did not reach the acreage goals. For example, acreage planted to cotton was only 20,356,000, nearly 2,000,000 below the goal and the smallest acreage planted since 1895. Likewise below the goals were acreages planted to potatoes, sweet potatoes, tobacco, beans, peas, soybeans to be threshed, peanuts for nuts, and sugar beets. In these crops the acreage was only about 22,800,000 or 7,000,000 below the goals' total and more than 1,000,000 acres below the previous year's plantings of these crops, though 8,400,000 acres or 58 per cent above the 1933-42 average.

GRAIN PRODUCTION

Wheat production, estimated (September) at 1,079,000,000 bushels, was 10 per cent greater than in any previous year. Helped by timely spring rains and by mostly dry weather at harvest time, the average yield was 18.2 bushels per acre, the second highest on record. This showing, though partly attributable to favorable weather, was partly the result also of the use of new rust-resistant varieties.

Corn production was estimated in September at 3,228,000,000 bushels. This total exceeded the production of any previous year. Corn suffered from drought conditions in late July and early August over most of the East and South; but the 50,000,000 acres planted in the central and western Corn Belt yielded an immense crop. The national average yield of 33.2 bushels per acre, was above the national average in any year except 1942. Farmers planted hybrid corn on 57 per cent of the total acreage.

Sorghums, favored by abundant rainfall in the Southwest, were an outstanding crop. The quantity harvested as grain was about 182,000,000 bushels as compared with the previous record output of 112,000,000 bushels in 1941. Farmers increased the production and decreased the harvesting costs by making a further shift toward the low-growing kinds of sorghums which can be harvested with combines. Estimates of feed grain production included 1,166,000,000 bushels of oats and 284,000,000 bushels of barley. These were just fair-sized crops because many fields were planted late. The rice crop of 70,000,000 bushels was a near record. Production of buckwheat was above average. The crop of rye was very small.

Altogether the indicated production of grain was 153,000,000 tons, as compared with 143,000,000 tons in 1943, 155,000,000 tons in 1942, and from 120,000,000 to 136,000,000 tons annually in the preceding five years. This huge total will relieve feed shortages and obviate need for excessive marketings of livestock. Hay and roughage supplies, though not correspondingly large, appeared to be adequate for a normal rate of livestock feeding this winter.

COTTON PRODUCTION

Cotton production, estimated in September at 11,483,000 bales, was close to the average of the last half dozen years. It seemed likely in midsummer that the season's reduction in the cotton acreage would be nearly offset by a record yield per acre, but in September a hurricane struck some important cotton-growing areas and caused considerable damage.

TOBACCO AND OTHER CROPS

Tobacco, according to the September estimate, was a near-record crop of 1,700.000,000 pounds. The yield per acre was likewise a near record. Production of peanuts was expected to exceed that of any previous year by 7 per cent. The crops of beans, dry peas, and soybeans were large or very large as compared with pre-war standards, though considerably below the production of last year. Potatoes and sweet potatoes were about average crops. Potato production at 378,000,000 bushels, however, was almost 90,000,000 bushels less than that of 1943.

FRUITS, NUTS, VEGETABLES

Tonnage of all fruits and tonnage of commercial vegetables was the largest on record. Prospects for citrus fruit were very favorable. Record crops of tree nuts were harvested. Among the vegetables grown for market were record or near record crops of cabbage, onions, and lettuce. The total commercial vegetable production for market was a record. Vegetables grown for processing showed a larger tonnage than in any previous season except in 1942.

LIVESTOCK

The number of hogs on farms Jan. 1, 1944, was an all-time record, though the hog population had increased sharply since 1940, but the 1944 spring pig crop was 24 per cent smaller than the record 1943 spring crop, and the 1944 fall pig crop showed a reduction from that of 1943. Cattle numbers, which have been increasing since 1938, were estimated on Jan. 1, 1944, at 82,200,000 head of cattle and calves on farms, a new peak in the cattle cycle. Little further change was expected by Jan. 1, 1945. The number of chickens on farms Jan. 1, 1944, was likewise a new high record; but a substantial reduction in the number of chickens raised, and heavy culling of older hens, will result in a smaller number at the beginning of 1945.

MEAT AND DAIRY PRODUCTION

Total meat production in 1944 may turn out to be about 25,000,000,000 pounds, dressed weight, the largest of record. Total milk production on farms in 1944 may be about the same as in 1943. Returns to dairy farmers will be higher, as a result of slightly higher prices and larger dairy-production payments. Production of most manufactured dairy products, except butter, may exceed the 1943 volume. Production of creamery butter may be the lowest since 1928. The demand for dairy products has been far greater than available supplies, and price ceilings, set-aside orders, and rationing have been used to regulate distribution.

LONG-TIME OUTLOOK FOR COTTON

Consumption of cotton in the world is now probably no more than about 24,000,000 bales a year, roughly 4,000,000 bales below the pre-war rate. This is true in spite of important increases which have taken place in the Western Hemisphere countries and in India. In the United States, mill consumption under pressure of the military demand is now about 3,500,000 bales above the pre-war average. Canada also has increased its consumption by not quite 250,000 bales; Latin America by more than 500,000 bales; and India by about 1,000,000 bales. By contrast, in most of the remaining countries of the world among which are nearly all of those to which the United States has customarily exported cotton in volume, wartime consumption has been sharply restricted. Their aggregate consumption is now 9,000,000 or 10,000,000 bales below pre-war levels, and has been offset only partially by increases in rayon consumption.

Consequently, acute shortages of clothing and of cotton goods have developed in many countries. To the extent that they have purchasing power, these countries will want to make substantial new purchases of cotton goods or of cotton. Mill activity in many cotton-manufacturing countries should be greatly stimulated in consequence, especially in those which have been depressed. Success in stabilizing the exchange value of foreign currencies would be extremely helpful at this stage. In countries with insufficient foreign exchange, relief distribution of cotton goods may also be a factor. It would seem unwise, however, to count too heavily on the present shortage of textiles for the long-time recovery of the cotton export trade. Similar conditions after the First World War gave rise to intense activity, but it lasted only about a year and a half. The next phase was drastic price deflation.

WHEAT—INCOME AND PRICES

Income to United States farmers from wheat sales in 1943 exceeded $900,000,000. In 1944 it may be about $1,300,000,000, the highest since 1920. The large income in 1943 chiefly reflected good prices; that of 1944 was the result of large production as well. Prices in these two years were double the average for the 1931-40 period. The Agricultural Adjustment Act of 1938, along with subsequent legislation, provides cooperating farmers with price-support loans at 90 per cent of parity on wheat harvested before the expiration of the two-year period beginning Jan. 1 following the official proclamation that hostilities have ceased.

Two other measures that have a bearing on wheat prices are in effect. One is an offer by the War Food Administration to purchase unredeemed 1944 crop loan wheat at the end of the storage year at parity equivalent prices less all carrying charges. This arrangement carries out a mandatory provision of the Stabilization Extension Act of 1944 (Public 383, 78th Cong., approved June 30, 1944) that all lawful means shall be used to bring agricultural prices up to parity. The other measure is a provision of the Surplus Property Act (Public 457, 78th Cong., approved Oct. 3, 1944) whereby the Commodity Credit Corporation may export wheat, flour and other commodities at competitive world prices.

FATS AND OILS

Before the present war began, the United States was importing from 1,500,000,000 to 2,500,000,000 pounds of fats and oils annually. The imports consisted primarily of copra from the Philippines, palm oil from the Netherlands Indies, flaxseed from Argentina, and tung oil from China. After Pearl Harbor and the loss of the Philippines and the Netherlands Indies, the imports dropped, while the demand increased. Many industrial plants required increased quantities of certain oils to meet the war needs; the direct requirements of the Army and Navy increased substantially; and lend-lease needs became very large. Total United States requirements, including requirements for export, increased from about 10,000,000,000 pounds in 1939 to approximately 12,000,000,000 pounds annually during the war period. Thus the United States and its Allies faced a shortage of fats and oils.

Asked by the War Food Administration to increase their output of these products, and aided by price guarantees, American farmers responded well. Production of oils and fats in 1944 reached an all-time high of more than 11,000,000,000 pounds, 35 per cent or about 3,000,000,000 pounds above that of 1939. Production of vegetable oils from domestically grown seeds (principally cottonseed, soybeans, flaxseed, and peanuts) was 75 per cent greater than in 1939. Output of lard exceeded all previous records, and total animal fat production was about 25 per cent greater than in 1939. Other countries which temporarily could not get fats and oils from the Pacific area undertook likewise to increase their production. The United Nations actively encouraged greater production of fats and oils in countries to which they had access.

Many uncertain conditions lie ahead, however. It is difficult to forecast the production adjustments that may be necessary in this country when the war is over. When normal world production again becomes available, it appears that supplies will be ample to meet world requirements. For the United States, future tariff policies will determine the quantities of oils imported from abroad; also, our trade policies with foreign countries may have a considerable bearing upon the extent to which other countries purchase our agricultural products.

SUGAR

In 1944 the problem of meeting the sugar requirements of the United States and its Allies was complicated by the industrial alcohol program. There was a tremendous need for industrial alcohol, particularly for the great synthetic rubber program. It was necessary, because of the 1943-44 shortage of grain and because of the inability of other sources to furnish raw material in adequate quantities, to divert a considerable quantity of Cuban sugar cane into invert molasses. This diversion absorbed the equivalent of about 900,000 tons of sugar. If it had not been possible for the alcohol program to obtain some of its raw material in this way from the sugar cane fields, we would have had to make further inroads into our grain supplies at a time when farmers were having great difficulty in feeding their livestock. Food was lost in the form of sugar because of the alcohol requirements; but this use of sugar made it possible to save food in the form of meat. The huge 1944 wheat crop, however, will probably make it unnecessary to divert much sugar into alcohol in 1945.

Sugar supplies in the area controlled by the United Nations will probably continue to be scarce as long as the war in Asia continues. On the other hand, the demand will continue to be considerably above peacetime levels. It should be borne in mind, too, that the war in the Pacific has cut off our rubber imports from the Far East as well as our imports of sugar from the Philippine Islands and Java. Thus it has reduced the supply of sugar available to the United States and at the same time increased the need for sugar here since, as already mentioned, we have had to depend considerably on high-test molasses as raw material for industrial alcohol. Even the end of the war in Europe will not immediately change the situation greatly.

It may be necessary for some time after the fighting stops in Europe to ship considerable amounts of sugar to liberated countries. Moreover, we shall continue to need large quantities of alcohol for making rubber and other products, but this applies only to the immediate future. In the longer post-war period, the sugar supply situation will undoubtedly change considerably. The return of sugar-producing areas everywhere to sugar production may bring back surplus conditions, unless sugar consumption increases greatly throughout the world or unless an international agreement or some other method results in sugar crop curtailment programs. The areas that supply sugar to the United States normally can furnish considerably more sugar than this market is able to absorb at prices fair to both producers and consumers.

TOBACCO

When war began, probably no group of American farmers were in more jeopardy from it than the growers of flue-cured and dark tobacco. This country had been exporting more than half of its flue-cured and dark tobacco. The shock of the disruption has been partially relieved, particularly in flue-cured tobacco. Easier shipping conditions, lend-lease arrangements, and the willingness of the British to use dollar exchange to purchase American tobacco for their civilians have been mitigating factors. We have furnished a substantial amount of the tobacco required by our Allies, and in consequence should be in a preferred trading position when the war ends.

The demand for tobacco is likely to be large in the period immediately following the close of the hostilities. Most countries will need to replenish their inventories. What share the United States will have in this restocking will depend largely on the policies of the several nations, and on problems of exchange in the post-war period. When the restocking period is over, our international trade in tobacco will depend on various additional factors, such as expansion in importing countries of tobacco production of types similar to those grown here, the development of import duties and other trade barriers, and the willingness of American farmers to grow tobacco for export.

FINANCIAL POSITION OF FARMERS

The war has greatly enlarged the flow of funds into and out of agriculture. Cash farm income from 1940 to 1943 from products sold, and from Government payments, rose from $9,100,000,000 to $19,900,000,000, an increase of 119 per cent. Gross farm income during those years increased faster than total production cost even including the cost of hired labor. As a result, the total net return from agriculture to labor and investment increased from about $6,500,000,000 in 1940 to $15,800,000,000 in 1943. The net income of farm operators and their families, from farm operations plus government payments and including an adjustment for changes in inventory, increased from about $4,800,000,000 in 1940 to $12,000,000,000 in 1943. The increase reflected higher prices and increased production, with price gains exercising the greater influence. Production, as measured by volume of farm marketings and home consumption, increased 17 per cent during the period, while prices received for farm products rose 92 per cent. In 1944 the volume of farm marketings was somewhat greater than in 1943, and prices averaged slightly higher; hence the income from marketings was somewhat greater.

WAR-TIME POPULATION SHIFTS

During the past four years, the largest movement of people from

American farms ever recorded in so short a period has occurred. Some 1,500,000 have gone into the armed forces, and an additional net migration of 3,500,000 to 5,500,000 civilians into cities and other non-farm areas has taken place. Not all of the civilian migration can be attributed to the influence of wartime industrial activity. If migration from farms had continued at the same rate as during the last five pre-war years, nearly 2,000,000 persons would have left the farms in the normal course of events during the four-year war period. It may, therefore, be assumed that the excess net migration from farms during the last four years roughly has been 4,000,000. Population movements into agriculture after the war will largely depend on the behavior of the extra 4,000,000 persons who have left the land during the war period.

The number of persons who return to farms from the military forces and from war industries will depend on the economic opportunities offered by agriculture in comparison to the economic opportunities offered outside agriculture. The only time since the end of our frontier period when the nation had a net population movement from towns and cities to farms was in the depths of the depression. Agriculture then became the "poorhouse" for the temporarily unemployed. In all other periods net population movement has been away from farms. Unless we have a nationwide depression following the war, there should be no heavy rush to the land. Undue stimulation of such a movement would be an invitation to agricultural maladjustment and rural misery.

PRICE SUPPORT OPERATIONS

One of agriculture's goals is freedom from severe crop restrictions, either of the individual or the collective sort. Another name for this objective is a constantly expanding market, in which price supports will not be needed. If agriculture's market does not expand in the post-war years, production continued at wartime levels might saddle the Government with an unmanageable surplus-disposal job. Experience in many countries, during many centuries, has shown that price support is difficult with production unrestricted. Hence the Commodity Credit Corporation has reminded farmers that part of the post-war price-support task will be their responsibility, and will concern the volume of production and marketing.

The WFA has concluded we shall want large farm production in 1945, about on a par with that of the earlier war years even if Germany surrenders. There is a big world-rehabilitation job ahead, part of which may be advanced through commercial as well as non-commercial shipments. Also, the war against Japan may make heavy demands on our food supplies. It is hoped programs will be developed for the post-war years that will maintain industrial production and consumer buying power at a high level, and thus help to minimize the agricultural price and income problem.

It should be kept in mind, however, says the Federal agricultural agency, that a situation may develop ultimately in which the Government will be at very heavy expense to make the price supports effective. In that event it may have to ask farmer cooperation, just as it did in the 1930's so that the supplies which must be taken off the market will not become too large.

As a means of gaging what lies ahead for the Commodity Credit Corporation, in the event of lagging consumer purchasing power when the war is over, we may compare its current responsibilities with those it handled before the war. Now, it must implement price supports at not less than 90 per cent of parity for between two-thirds and three-fourths of agriculture's production, and must maintain prices as close to parity as possible for the rest of the farm output. In the 1930's, the CCC had to provide loan funds only for a few crops, with producers engaged simultaneously in making acreage adjustments. It is one thing, however, to promote crop adjustments for just a few crops, from which farmers may shift easily, and quite another to organize a general retreat in crop and livestock production, with price supports effective right across the board. Moreover, the support level is attractive to producers; they will want to keep on producing for it. Hence the main reliance for price support in post-war years must be an expanding agricultural market.

Farm efficiency, it should be kept in mind, is rising. Output per acre, per animal unit, and per agricultural worker should increase substantially in the post-war years. By 1950, average crop yields may be about 10 to 12 per cent above pre-war averages, through wider use of known and available improved varieties and strains of seeds, better rotations and conservation practices, increased use of fertilizer, better control of insects and disease, and better timing in planting and harvesting operations. Livestock production may show an increase of about 5 per cent in milk production per cow and in egg production per hen, and an over-all increase of possibly 2½ per cent in the efficiency with which feed is utilized by livestock. Allowance for such improvements in farm technology indicates that, with full employment, production requirements for 1950 could be met by the cultivation of about 330,000,000 acres of cropland, or around 25,000,000 less than the acreage in cultivation in 1933 and 1944. With less than full employment, the acreage needed would of course be smaller.

INTERNATIONAL COMMODITY AGREEMENTS

Positive energetic programs should be started, the Department of Agriculture states, for developing and operating international commodity agreements, in which all countries interested in the commodities involved would have the right to participate. Such agreements should have two major objectives: (1) orderly expansion of production in line with actual needs, including the needs of people who may not have adequate purchasing power; and (2) the promotion of greater stability in world agricultural prices. Progress toward the second objective would be helpful not merely to the world's agricultural producers, but also to consumers of agricultural products. It would contribute to the stability of the world economy. As everyone knows, drastic fluctuations in agricultural prices in the past have contributed greatly to world depressions, unemployment, and under-consumption. Experience has indicated that no country individually can wholly prevent such fluctuations, or can obviate the bad effects. Experience has also indicated, however, that the problem might be manageable through international cooperative procedures.

WORLD AGRICULTURAL ORGANIZATION

The United Nations Food and Agriculture Conference which met at Hot Springs, Va. in May and June of 1943, recognized that other conferences and other groups would have the responsibility of developing necessary parts of an international economy of peace and abundance. For the agricultural part, it recommended that the United Nations jointly set up a permanent organization to deal with agriculture and food, and that it be the task of this organization to help the governments of all countries to improve their agriculture and their nutrition in order to realize the scientific possibility of greater productivity, prosperity, and health throughout the world.

This proposal was quite different from the proposal for an international relief body, which subsequently led to the establishment of the United Nations Relief and Rehabilitation Administration. UNRRA is a temporary organization set up solely to deal with the immediate post-war problems in the invaded countries. Its object is a charitable one—to help feed and rehabilitate those war sufferers whose countries can not care for them. The proposed agricultural organization, on the contrary, is to be a permanent one; it will work with all countries to provide not charity but information and scientific knowledge.

In accordance with the Conference's recommendations, the United Nations Interim Commission on Food and

Agriculture was appointed, with one representative from each country. It spent a year working out plans for the permanent international organization, to be called the "Food and Agriculture Organization of the United Nations" (abbreviated as FAO). A proposed constitution for the organization, accompanied by a report broadly outlining its functions and methods of procedure, was sent to governments by the Interim Commission late in the summer of 1944. The constitution provides that when 20 governments have signified their acceptance, the new organization will come into existence and the Interim Commission will be automatically dissolved.

The FAO will have two main objectives—the achievement of higher nutritional levels among all the member nations, and the development of agricultural production and distribution adequate for the world's needs. Production and the distribution of agricultural products have never been adequately geared with the needs of the world's 2,000,000,000 people for food. If they were, it would be impossible to have surpluses of practically any farm products, and the difficulty in almost every case would be to produce enough. Every known scientific method for improving production and distribution would have to be used to the utmost. The premise underlying the FAO is that the gearing of producing ability with consumer needs is possible only by extensive international collaboration.

POST-WAR AGRICULTURAL NEEDS

After the war this country will have more engineering and technical ability available than ever before. This power can be used in protecting and restoring natural resources, in constructing dams for irrigation, in flood control operations, and in hydroelectric developments. The field is still wide for rural electrification, which makes farm life easier, more productive, and more comfortable. Engineering and technical ability will be available also to decentralize industry and develop it more uniformly throughout the country so as to bring raw materials closer to processing plants, and to multiply local contacts between agriculture and industry. Additional highway construction will facilitate the interchange of field and factory products. The further development of rail and air transportation can be expected to have great beneficial effects. Air transport particularly may be of enormous significance. Combined with improved refrigeration, it may greatly widen the marketing range for perishables.

Many other agricultural needs exist. Further efforts should be made to put low-yielding and submarginal lands into suitable uses. Our forests, which under war conditions have been further depleted, require the benefit of proper harvesting, adequate planting, modern cultural and other methods, and must have increased protection against fires, disease, and insects. Potential farm land should be made productive through irrigation, drainage, or clearing, though we shall not need any substantial increase in our total crop land, and agriculture will not have room in it for large numbers of returning veterans and former war plant workers. There is a big field for improvements in marketing facilities.

COTTON AND GRAIN CROPS

By Paul L. Koenig

Chairman, Crop Reporting Board, Department of Agriculture

GENERAL—COTTON

Production of cotton in the United States during 1944 amounted to 12,359,000 bales of 500 pounds gross weight, with an all-time record yield of 295 pounds per acre on 20,098,000 acres harvested. Production turned out to be only slightly smaller than the average for the 10-year period 1933-42 in spite of the fact that acreage was more than one-fourth smaller than the average for that period. The answer is found in record or near-record yields per acre in practically every state in 1944. The crop got off to a poor start at seeding time, because of excessive rainfall, but developed a spectacular comeback as more favorable conditions prevailed over most of the growing season down to harvest time.

GENERAL—GRAIN

The nation harvested its largest production of grain crops in 1944. The aggregate of food and feed grains approximates 155,854,000 tons, 0.5 per cent more than the previous record production in 1942, 10 per cent above the large tonnage in 1943 and 34 per cent above average. It must be kept in mind, however, that the 1933-42 average includes the two drought years of 1934 and 1936. Contributing to this achievement, attained despite difficulties which at times appeared insurmountable, American farmers harvested the largest crops of corn, wheat, rice, and sorghum grain ever produced in this country. The crops of oats, barley, and buckwheat are larger than average, with rye smaller than average. Of the so-called food grains, wheat, rye, rice and buckwheat, total production is 1,184,000,000 bushels, 7 per cent more than in 1942, 25 per cent above 1943, and 38 per cent above average. Feed grains produced in 1944 total 4,861,000,000 bushels, 3 per cent below the 1942 total, but 6 per cent above 1943, and 31 per cent above average.

COTTON ACREAGE

The acreage of cotton in cultivation July 1, 1944, was 20,356,000 acres, a reduction of 7 per cent below that in 1943 and 28 per cent below the 1933-42 average. With reasonably good prices assured for the 1944 crop and with the removal of marketing quotas, some increase in acreage might have been expected, but continued and excessive rainfall with low temperature prevailed over a large portion of the cotton belt during planting time with the result that many farmers were unable to seed their intended acreage. Furthermore, with prospects of fewer laborers available for chopping and harvesting the crop there was an increased tendency to continue the shift to crops requiring less hand labor for cultivation and harvesting. Reductions from 1943 in cotton plantings were apparently more pronounced on the larger farms, with the smaller farmers maintaining or increasing their acreage except where adverse weather prevented.

Abandonment of acreages amounted to 1.3 per cent of planted acreage, leaving 20,098,000 acres for harvest. This acreage compares with 21,652,000 acres harvested in 1943, and marks a continuation of the general downward trend from the peak of 44.600,000 acres in 1926. By 1932, the most recent year prior to acreage control measures, the planted acreage of cotton had declined to 36,500,000 acres. In spite of extremely low prices received for that crop, farmers seeded about 40,250,000 acres in 1933. With the plow-up campaign that year 10,500,000 acres of cotton were removed from cultivation.

Through contractual agreements with farmers and through marketing quota allotments, cotton acreages since that time have been held to a level below that for the pre-control years, with the trend in total acreage continuing downward. As compared with 1943, the greatest reduction in acreage for 1944 occurred in Georgia, Alabama, Louisiana, North Carolina, and Florida, where adverse weather at planting time was most serious, and in Arizona where acreages of American Egyptian cotton were drastically reduced. Some increases in acreage occurred in Missouri, New Mexico, and California.

Acreage planted to American Egyptian cotton was reduced from 141,700 acres in 1943 to only 13,600 acres in 1944. This decimation of the American Egyptian cotton acreage is attributed to the fact that production of this crop is much more expensive and hazardous than is production for the upland varieties. Furthermore, the price-support program for the 1944 American Egyptian crop was not so highly favorable as it had been during the years immediately preceding. Difficulties in securing adequate labor for harvesting had also been a major problem in Arizona where the greater portion of this long staple cotton is normally produced.

COTTON YIELDS

In contrast to the downward trend in acreage, per acre yields of cotton have shown a marked upward trend. The 1944 yield of 295 pounds set a new all-time record; it was 23 pounds above the previous record of 272 pounds produced in 1942. The 1944 yield was 68 pounds or 30 per cent above average yield for the 10-year (1933-42) period, and 125 pounds or 74 per cent above the average for the 10-year period (1923-32). This phenomenal increase in cotton yields is owing to a number of factors, some of which are: 1. reduction in acreage planted resulted in a shift of acreage away from the less fertile soils; 2. application of plant food through commercial fertilizer has been tremendously increased; 3. more intensive cultivation practices have been followed; 4. with less acreage devoted to cotton, increased acreages have been planted to soil-building crops; 5. climatic conditions, at least for the last three years, have been unusually favorable for production of cotton.

COTTON PRODUCTION

Production of cotton in 1944 of 12,359,000 bales of 500 pounds gross weight was 900,000 bales greater than the 1943 crop and only about 100,000 bales smaller than average production during the 10-year (1933-42) period. The increased yield as compared with average was almost sufficient to offset the acreage reduction.

The 1944 cotton crop got off to a relatively poor start because of excessive rainfall at seeding time. Fields

COTTON ACREAGE, YIELD, AND PRODUCTION

State	Acres of Cotton in Cultivation July 1			Yield per Harvested Acre			Production (Ginnings)[1] 500 lb. gross wt. bales		
	Average 1933–42	1943	1944	Average 1933–42	1943	1944	Average 1933–42	1943 Crop	1944 Crop
	Thousand Acres			Pounds			Thousand Bales		
Missouri	410	375	391	416	386	528	343	295	430
Virginia	49	34	32	296	355	450	29	24	30
North Carolina	946	850	767	323	338	439	613	596	700
South Carolina	1,377	1,148	1,093	276	291	372	759	696	845
Georgia	2,181	1,618	1,368	228	253	286	997	847	810
Florida	86	45	33	145	174	175	25	16	12
Tennessee	804	723	679	310	327	404	493	491	570
Alabama	2,232	1,627	1,429	227	285	341	1,011	959	1,010
Mississippi	2,841	2,515	2,367	286	354	411	1,609	1,841	2,010
Arkansas	2,383	1,888	1,801	283	291	389	1,314	1,122	1,440
Louisiana	1,282	1,025	927	241	349	327	617	739	625
Oklahoma	2,348	1,554	1,531	152	123	205	653	384	640
Texas	10,558	7,915	7,354	162	174	176	3,273	2,823	2,640
New Mexico	116	112	115	472	471	480	108	108	114
Arizona	211	204	148	417	311	464	182	131	142
California	342	291	303	581	567	518	411	341	325
Illinois, Kansas, and Kentucky	24	18	18	374	383	429	18	14	16
United States	28,189	21,942	20,356	226.9	253.5	295.3	12,455	11,427	12,359
American Egyptian[2]	63.7	141.7	13.6	236	210	264	29.1	60.9	7.4

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[1] Allowances made for interstate movement of seed cotton for ginning.

[2] Included in state and United States totals. Grown principally in Arizona, New Mexico, and Texas.

were grassy and large numbers of boll weevils emerging from hibernation constituted a serious threat to the crop. Cessation of rainfall about mid-June with temperatures predominantly above normal resulted in stimulated plant growth and minimum insect damage. This absence of rainfall and abundance of heat continued throughout most of July and was reaching drought stages in the central part of the cotton belt when timely rainfall in late July relieved the situation and stimulated further fruiting of the plants. The month of August continued hot and dry over most of Oklahoma and the eastern part of Texas, with the result that the crop deteriorated in those areas. In other parts of the cotton belt, however, the crop was generally favored with optimum rainfall and optimum sunshine. The remainder of the harvesting season was unique in that climatic conditions continued unusually favorable for maturity of the crop.

The 1944 harvesting season was somewhat delayed owing largely to the inability of producers to secure an adequate supply of labor for picking. The delay in harvest is reflected by the fact that only 86 per cent of the total crop had been ginned by Dec. 1. Not since 1926 had such a large percentage of the crop remained unginned by that date.

VALUE OF COTTON PRODUCTION

The preliminary price of lint cotton to Dec. 1 was 21 cents per pound compared with the season average price of 19.88 cents per pound for the crop of 1943. The price of the 1944 crop is above the average received for any crop since 1924. Computed at 21 cents per pound the value of lint is placed at $1,298,849,000. The preliminary price of cottonseed, at $53.10 per ton, is one dollar above the average received for the 1943 crop. Value of cottonseed production is computed at $262,546,000 with the combined value of cotton and cottonseed, $1,561,395,000. The value of the 1943 cotton and cottonseed crop is $1,379,664,000. Included is the value of cotton lint placed under loan and unredeemed at the end of the crop marketing season. For the 1943 crop 3,595,000 bales were placed under loan, of which 1,202,000 had been redeemed by Aug. 1. Loans had been made on 1,562,000 bales of the 1944 cotton crop up to Dec. 23. In addition the Commodity Credit Corporation, through Dec. 23, had purchased at parity prices 775,000 bales of 1944 crop cotton.

GRAIN CROPS—UNITED STATES

Crop	Acreage Harvested			Yield per Harvested Acre			Production		
	Average 1933–42	1943	1944	Average 1933–42	1943	1944	Average 1933–42	1943	1944
	Thousand Acres			Bushels			Thousand Bushels		
Wheat									
Winter	38,163	33,975	40,714	15.0	15.6	18.8	570,675	531,481	764,073
Durum	2,577	2,095	2,116	11.2	17.0	15.1	27,413	35,574	31,933
Other Spring	13,166	14,578	16,479	12.4	18.8	17.2	162,112	273,968	282,641
All Wheat	53,706	50,648	59,309	14.1	16.6	18.2	760,199	841,023	1,078,647
Rye	3,344	2,755	2,254	11.7	11.1	11.5	40,446	30,455	25,872
Rice	1,036	1,468	1,466	48.1	44.2	47.9	49,626	64,843	70,237
Buckwheat	416	505	515	16.9	17.5	17.8	7,020	8,830	9,166
Corn, all	92,355	94,455	97,235	25.8	32.1	33.2	2,369,384	3,034,354	3,228,361
Oats	35,597	38,395	38,984	28.6	29.6	29.9	1,028,280	1,137,504	1,166,392
Barley	11,485	14,768	12,359	21.7	21.9	23.0	256,350	324,150	284,426
Sorghum Grain	4,655	6,662	9,117	13.4	15.6	19.9	65,362	103,864	181,756

WHEAT

All wheat production in 1944, at 1,078,647,000 bushels, is the nation's largest wheat crop. Only one other billion bushel wheat crop has been produced, that of 1915, which is now exceeded by 70,000,000 bushels. Combined with a relatively large acreage is a yield per acre exceeded only in 1942. The record production is owing to the unusual occurrence in the same year of good crops of both winter wheat and spring wheat, though neither is a record breaker alone.

The record 1944 crop, combined with stocks of about 315,000,000 bushels from earlier crops, provides ample quantities for domestic requirements. In the 1943-44 season domestic consumption included food, 543,000,000 bushels; seed, 79,000,000; feed, 503,000,000; alcohol, 108,000,000. In the current season, July 1, 1944 to June 30, 1945, it appears that requirements will be 550,000,000 bushels for food, 83,000,000 for seed, 275,000,000 for feed, 90,000,000 for alcohol, which would leave stocks larger than at the beginning of the year even if exports are increased somewhat.

Wheat was sown on 65,684,000 acres, including some duplication of spring wheat sown on abandoned winter wheat acreage and the acreage of volunteer wheat harvested. Of this 59,309,000 acres were harvested, with abandonment thus nearly 10 per cent. This compares with 55,127,000 sown, 50,648,000 harvested, and about 8 per cent abandonment for the 1943 season. Farmers responded to removal of acreage restrictions and the urge for increased production by growing the largest acreage of all wheat since 1938, though it was exceeded in 11 of the last 30 years. Winter wheat was seeded in the fall of 1943 under adverse conditions of moisture deficiency, so that heavy abandonment and low yields appeared in prospect, but opportune late fall, winter, and spring precipitation brought about a remarkable recovery. Abandonment was owing chiefly to losses before fall moisture was received. Rust and rain damage during harvest reduced yields somewhat. The abundant harvest created storage, transportation, and labor problems, with considerable wheat piled temporarily on the ground.

This enormous 1944 wheat crop is valued at $1,527,413,000 compared with $1,146,584,000 for the 1943 crop and $1,069,878,000 in 1942. Value is computed at the preliminary season average price of $1.42 per bushel in 1944, $1.36 in 1943, and $1.10 in 1942. These season average prices are prices received by farmers for the portion of the wheat crop they sell, usually 75 to 85 per cent of the total produced. They include an allowance for unredeemed loans at average loan value, though at the level of current prices the volume of wheat placed under loan has become relatively small. This price applied to production gives a measure of the importance of each crop to the agricultural industry.

WINTER WHEAT

A sharply increased acreage of winter wheat was sown in the fall of 1943, nearly 23 per cent more than a year earlier, to reach a total of 46,349,000 acres. The increase was general, with every state except New Mexico showing some degree of increase, led by Kansas, Oklahoma, and Texas. The acreage sown in these three states in the fall of 1943 was nearly half of the national total; Kansas alone accounted for 28 per cent of the total. Conditions at seeding time in the important southwestern area were adverse, with moisture deficiency continuing until late fall. Seed was "dusted in" or sown late. Belated fall rains permitted completion of seeding and benefited early seedings but were insufficient in much of the Great Plains area, where the crop entered winter in below-average conditions, indicating probable heavy abandonment and low yields.

Some fields which germinated were lost because of lack of moisture or were severely thinned. Abandonment in Kansas and Nebraska was heavy, but winter precipitation was beneficial and the spring season became increasingly favorable. In the Pacific Northwest spring rains relieved the concern growing out of the dry fall and winter. Heavy flood losses occurred in April in Illinois and Missouri. Rust damaged fields in South Dakota, Nebraska, and Wyoming, but caused little concern elsewhere. Despite all these handicaps the crop rallied in a remarkable manner to make near record yields and production. The yield of 18.8 bushels per harvested acre is exceeded only by the 19.7 bushels obtained in 1942 and the 19 bushels in 1931. Production on 40,714,000 acres harvested is 764,073,000 bushels, compared with 33,975,000 acres and 531,481,000 bushels in 1943. The record crop of winter wheat is the 825,315,000 bushels in 1931, the only crop to exceed that of 1944.

SPRING WHEAT

All spring wheat harvested in 1944 amounts to 314,574,000 bushels, the largest production since 1928, though only slightly above 1943. Only about one-tenth of this is durum wheat, the 31,933,000 bushels being less than in any year since 1937. The other spring wheat crop of 282,641,000 bushels is the largest of record. Spring wheat was sown and grown under favorable conditions, with abandonment extremely light. At harvest time, however, excessive rains delayed combines and threshers, resulting in reduced yields and some acreage loss, particularly in Minnesota and North Dakota. Hail loss was heavy in Montana. Of the 18,595,000 acres harvested, 2,116,000 acres were durum with a low yield of 15.1 bushels and 16,479,000 acres were other spring wheat with a relatively high yield of 17.2 bushels per acre.

RYE

The smallest crop of rye since 1887, with the exception of the drought years 1933, 1934 and 1936, was that produced in 1944—25,872,000 bushels. The acreage seeded in the fall of 1943 was sharply less than in recent years, tending to be limited to thinner soils by competition with more profitable war crops. A considerable acreage is usually sown for pasture and some for soil conservation purposes. The net acreage harvested is 18 per cent less than in 1943 and only two-thirds of the 10-year average, with the heavier decreases in the principal producing areas of Minnesota and the Dakotas. Yields are higher than in 1943 in most states, except Minnesota, North Dakota, and Nebraska. On the 2,254,000 acres harvested the average yield of 11.5 bushels is 0.4 bushel above 1943. At the preliminary season average price of $1.09 per bushel the value of the 1944 production is $28,267,000, compared with 98.1 cents and $29,859,000 in 1943.

BUCKWHEAT

The 1944 buckwheat crop of 9,166,000 bushels is the largest in 16 years and nearly a third above average, though small compared with crops prior to 1929. The largest acreage since 1930 was planted, 539,000 acres, of which 515,000 acres were harvested. This expansion was largely owing to reduced seedings of early grains because of the wet spring and substitution of buckwheat as a late catch crop. The growing season was generally favorable in the areas where the acreage is important and late frost dates permitted the crop to mature. The yield of 17.8 bushels is slightly above average. At a preliminary season average price of $1.07 per bushel the value of 1944 production is $9,792,000, considerably less than the $1.26 and $11,108,000 in 1943.

RICE

Production in 1944 of 70,237,000 bushels of rice exceeds all previous records. Beginning with 1942, each year has set a production record, only to have it broken in the succeeding year. The 1944 crop exceeds that of 1943 by more than 8 per cent, though produced on approximately the same acreage—1,466,000 acres. An average yield per acre of 47.9 bushels in 1944 compares with 44.2 bushels in 1943. Revision of 1943 estimates of production, down to 64,843,000 bushels on 1,468,000 acres, was necessary because of heavy harvesting losses in Louisiana and Texas occurring after Dec. 1, 1943.

The 1944 harvesting season in the southern area was almost ideal. Yields exceeded expectations in Louisiana where irrigation water from wells was short and salty river water was a menace. The expanded Arkansas acreage produced better than average yields. The Texas outturn was satisfactory despite mid-summer water shortage. The Southern area produced 55,837,000 bushels compared with 50,283,000 bushels harvested in 1943. California produced 14,400,000 bushels, slightly less than in 1943, but harvested a larger acreage than in the previous year after a somewhat unfavorable growing season capped with hampering rains at harvest time. At a preliminary season average price of $1.73 per bushel the 1944 crop is valued at $121,200,000, compared with $1.78 per bushel and $115,703,000 in 1943.

FEED GRAINS

A near-record quantity of feed grains—120,971,000 tons of corn, oats, barley, and sorghum grain produced in 1944—is exceeded only by the 122,566,000 tons in 1942. This is 6 per cent more than the 113,850,000 tons in 1943 and a third more than the 10-year average which includes two drought years, but it is also a fifth larger than the pre-drought (also before A.A.A. allotments restricted acreage) average for 1923-32. The major part of this tonnage is corn, the acreage of which is no longer restricted. Oats contributes about its usual proportion, but barley does not and the sensational increase in production of sorghum grains could not offset the lower barley outturn.

The bulk of the supply of feed grains is fed to livestock on the farms where grown or is purchased by other farmers for this purpose. Thus the larger part of farmers' income from feed grains is through the livestock to which it is fed. Only a relatively small part goes to commercial uses, but before the 1944 crop of corn was available commercial users found their supplies cut so short that a government-buying program was carried on in their behalf. The demands for feeding the relatively large numbers of livestock on farms were so great that stocks of feed grains at the close of the 1943 marketing season were low compared with recent years, but with this large new production and the reduction in livestock, it is likely that the supply per animal unit will be as large as in most recent years and near the pre-drought level.

CORN

The 1944 corn crop of 3,228,361,000 bushels is the largest on record. It is 97,000,000 bushels, or 3 per cent above the previous record set in 1942, 6 per cent above 1943 and 36 per cent larger than average. This total includes corn for all purposes—grain, silage, forage, hogging, etc.—but the quantity of corn harvested as grain also breaks all records at 2,909,553,000 bushels. Previously the 2,849,000,000 bushels in 1942 held the top; 2,724,530,000 bushels of grain corn were harvested in 1943. The increased use of mechanical pickers enabled farmers, despite scarcity of labor, to harvest the largest acreage since 1933.

With acreage restrictions off and a high goal set for 1944, a total of 98,722,000 acres was planted. This was short of intentions, owing to excessive rains and floods in parts of the Corn Belt, but is the largest acreage planted since 1936, when 100,000,000 acres were exceeded. About 57 per cent of this acreage was planted with hybrids; in most of the important Corn Belt states the proportion runs as high as 85 to 99 per cent in hybrids. Abandonment was relatively light at 1.5 per cent of the planted acreage, chiefly because of a midsummer drought. The acreage harvested, 97,235,000 acres, is the largest since 1933. Of this, 87,275,000 acres are for grain, 4,664,000 acres for silage producing 36,326,000 tons, and 5,296,000 acres utilized chiefly by livestock in the form of fodder, pasture, and acreage hogged off.

Much of the 1944 corn acreage was planted late, owing to heavy rains and floods at usual planting time. In the South this was a fortunate circumstance, for early corn was damaged by drought, but late corn revived and made a good crop. A midsummer drought in most of the country south and east of a line from Detroit to Dallas limited yields, even though broken in late August and September. Frost held off until a late date, and harvesting weather was nearly ideal, so that only small amounts of soft or chaffy corn resulted. Fields too late for grain corn or which were drought-damaged were largely salvaged as silage or forage. The average yield of 33.2 bushels per acre has been exceeded only in 1942. New production records were set in Wisconsin, Minnesota, Iowa, North Dakota, and Nebraska.

Measuring the value of all corn by the price received by farmers for the quantity they sold, the value of production at $1.14 per bushel is $3,679,495,000. This compares with $1.12 per bushel and $3,407,902,000 in 1943 and 91.7 cents per bushel and $2,871,400 for the previous record 1942 crop. These season average prices include an allowance for corn sealed under government loans, but the quantities sealed in 1943 and in 1944 by Dec. 23 were relatively insignificant, since cash prices exceeded the loan rate.

OATS

Production of 1,166,392,000 bushels of oats in 1944 is 3 per cent above that of 1943 and 13 per cent above the average. The crop was harvested from 38,984,000 acres with an average yield of 29.9 bushels per acre. Both acreage and yield are slightly higher than in 1943 and well above average. Substantial decreases from the 1943 acreage occurred in such important states as Ohio, Indiana, Illinois, Iowa, Missouri, Nebraska, and Kansas, where farmers intended to plant larger acreages, but were prevented from carrying out their intentions by the wet spring. Much of their acreage was planted later than usual with resultant low yields. Good yields were obtained in other areas not so adversely affected. A recent upward trend in acreage of oats is attributed to such factors as the success of fall-seeded oats in the South, the low labor requirements of the crop in these days of short labor supply and the development of new rust-resistant and high-yielding varieties adapted to the Middle West. At the preliminary season average price of 71.2 cents per bushel, 1944 production is valued at $830,486,000 compared with 72.1 cents per bushel and $819,871,000 in 1943 and 48.7 cents and $657,779,000 in 1942. Of 42,983,000 acres sown, about the same as in 1943, some acreage was cut for hay before maturity.

BARLEY

The barley crop of 284,426,000 bushels harvested in 1944, though 12 per cent less than in 1943, is still 11 per cent above average. The yield of 23 bushels per acre is better than in 1943 and well above average. But the acreage continues to decline, with 12,359,000 acres harvested, compared with 14,768,000 acres in 1943. Most of the acreage reduction was in the North Central States where about half of the nation's barley is grown. A sharp reduction in Oklahoma and moderate declines in other states outside the North Central region were about offset by increases in Texas, New Mexico, Arizona, and California where winter barley is a profitable cash crop. Yields were above average in most states, but not in such important states as Wisconsin, Minnesota, Iowa, and Nebraska. Because of apparent susceptibility of barley to scab and blight, especially on heavy soils, the crop has not been able to meet the competition of other feed and war crops. The heavy risks involved as winter barley expanded northward and the removal of restrictions on wheat acreage have also tended to reduce barley acreage in recent years. At the preliminary season average price of $1.03 per bushel the 1944 production is valued at $291,555,000 compared with 99 cents and $320,979,000 in 1943.

SORGHUM GRAIN

Production of sorghum grain in 1944 smashes all earlier records, with 181,756,000 bushels harvested, 63 per cent above the previous record set in 1941. It is three-fourths larger than in 1943 and 2¾ times the average production. A record acreage harvested for grain, combined with the highest yield per acre in 24 years, accounts for the huge crop. Weather conditions for growing and harvesting the crop were exceptionally favorable and occurred simultaneously with a marked expansion in the acreage of varieties suitable for harvest by combines in the southern and central Great Plains States, to which section the crop is well adapted. Texas produced 97,000,000 bushels or 53 per cent of the national total, and with Oklahoma and Kansas accounted for 88 per cent of the total. Sorghums are also utilized for silage and forage, but with favorable weather this season 52 per cent of all sorghum acreage was harvested for grain, compared with 42 per cent in 1943 and the average of 33 per cent. At the preliminary season average price of 88.3 cents per bushel, the 1944 production of sorghum grain is valued at $160,483,000, compared with $1.14 per bushel and $118,202,000 in 1943.

INSECT PESTS AND PLANT QUARANTINES

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GENERAL

Entomological problems closely concerned with the needs of the armed forces and of our allies have continued to receive the major attention of entomologists. Progress has been made in the development of means for controlling insect vectors of diseases of importance to military and civilian populations and for preventing losses or reducing damage by insects to livestock and other food crops. Timely improvements include the development of substitutes and synergists for extending the use of limited supplies of certain important insecticidal materials and highly improved means of their application.

NEW INSECTICIDES AND METHODS OF APPLICATION

Intensive research is being carried on to determine the agricultural uses of the insecticide 2,2-bis(parachlorophenyl)-1,1,1-trichloroethane, commonly referred to as DDT, the total output of which in this country at present is being devoted to the needs of the armed forces, except for a small amount allocated for experimental purposes. Although results now available indicate that it will be an important agricultural insecticide, before recommending it for such purpose additional information will have to be obtained with respect to its effect on plants, beneficial insects, and various forms of wildlife, and what, if any, hazard to human beings and animals may be associated with its use.

Continued development of a formula containing a considerably decreased amount of pyrethrins was helpful in extending the available supply of pyrethrum for use in aerosol dispensers required in increasing numbers by the Army and Navy for controlling malaria mosquitoes. It was also learned that a mixture of propane, butane, and Freon-12 could be safely used as propellent gases in the aerosols as a substitute for Freon-12, if it became necessary to do so. The liquid gas method of propelling aerosols has been found effective for applying insecticides in the greenhouse against certain agricultural pests, particularly the onion thrips.

The cooperative development of an improved grasshopper-bait spreader and advancement in the application of insecticides from the air also furnish gratifying evidence of progress in insect control.

INSECTS AFFECTING MAN AND ANIMALS

Research has shown DDT to be especially useful for the control of insects injurious to the health or comfort of man and animals. Dusts for louse control, containing the insecticide, were put to good use by the Army and Navy in stamping out a typhus epidemic in Naples, Italy, in the winter of 1943-44. Sprays containing DDT, applied at the rate of as little as one-third pound of the material per acre, were found to be very effective against certain ticks about campsites, playgrounds, and kennels. American dog tick and other southern species of ticks were controlled for more than one month when the material was applied at the rate of one pound per acre. The development of DDT sprays for the control of horn flies under ranch conditions has greatly reduced fly populations as well as the number of severe injuries caused by their bites. One such spray containing DDT kept animals free of horn flies for seven days.

Screwworms moved into northern grazing areas early in the spring of 1944 along with shipments of animals and became established in many localities where stockmen were not familiar with these pests. Timely surveys, advice, and prompt use by livestock owners of Smear 62 helped prevent losses among infested animals.

TRUCK CROP AND GARDEN INSECTS

Special emergency surveys of insects attacking important vegetable crops, and of their control requirements, have been conducted, in cooperation with state workers, industry, and other agencies, as an aid in the distribution of insecticides to localities or districts where they are most needed.

In tests directed against cabbage caterpillars, some insecticidal value justifying further tests was shown for yam bean flour, various nicotine combinations, a soap-water spray, scorodite, 2-chlorofluorene, sodium fluosilicate, barium fluosilicate, potassium fluosilicate, and a low rotenone-containing product from the plant *Derris malaccensis* (Benth.) Prain. The fluorine compounds had a tendency to cause injury to cabbage, which limits their use as substitutes for the more desirable insecticides containing rotenone and pyrethrum.

The new soil insecticide dichloropropane-dichloropropylene (DD mixture) has given promising results against wireworms in southern California and in Washington, and has also proved of some value in preliminary tests against larvae of the green June beetle infesting tobacco plant beds.

CEREAL AND FORAGE CROP INSECTS

In preliminary experiments DDT appears to be a very promising insecticide for use against the European corn borer, the white-fringed beetle attacking a variety of staple crops, the chinch bug as a pest of corn, the velvetbean caterpillar, grasshoppers, the vetch bruchid, insect pests of the alfalfa seed crop, and insects attacking stored grains and packaged cereal products. Intensive experiments to utilize varietal resistance to infestation by insects attacking a number of staple crops are being continued in cooperation with Department and state experiment station agronomists, with promising results.

The general level of corn borer abundance in 1943 was the highest on record, the loss of field corn amounting to over $28,000,000 and of sweet corn over $5,500,000, with extension of the infested area half way across Iowa and Missouri and clear across central Kentucky. The liberation of parasites against this important pest was expanded through cooperation with several state experiment stations, approximately 470,000 parasites being obtained for liberation in 1944 from corn borer larvae collected in the fall of 1943.

FRUIT INSECTS

In preliminary experimental field tests with DDT insecticides carried on at Vincennes, Ind., beginning late in July 1943, three applications of three pounds of a 50-50 DDT-pyrophyllite mixture per 100 gallons without supplements stopped completely a heavy attack of codling moth worms for the remainder of the season. Where the DDT-pyrophyllite mixture was used at only 1.5 pounds per 100 gallons, the fruit averaged only 31 worms per 100 apples as compared with about 100 worms per 100 apples following a lead arsenate program. In some field experiments the DDT permitted large increases in the population of European red mites, apparently by killing or repelling certain ladybird beetles that prey on the mites.

Use of the potato tuber worm as a host, in place of the strawberry leaf roller, made possible by the discovery of the former insect near Moorestown, N. J. where it had not formerly been known to occur, resulted in a big increase in the production, and much earlier in the season than formerly, of *Macrocentrus ancylivorus* Roh., the most important parasite used in control of the oriental fruit moth.

JAPANESE BEETLE

In preliminary small-scale field tests against adult Japanese beetles during the summer of 1943, a single application of a spray containing one pound of DDT per 100 gallons gave complete protection to the fruit and foliage of peach throughout the entire beetle-feeding season of more than six weeks. The spray left no visible residue on the fruit or foliage and caused no injury when used at a concentration of one pound in 100 gallons. When DDT was freshly applied to a number of soil types, at rates of five to 27 pounds per acre, it was as effective against grubs of the Japanese beetle as lead arsenate used at the rate of 500 pounds per acre. Studies in the greenhouse indicated that relatively large quantities of DDT could be applied to the soil without detrimental effect on certain crops, but that others, such as beans, spinach, and tomatoes, seem to be unfavorably affected when grown in soil treated with DDT at the rate of 25 pounds per acre.

Striking reductions in infestations by the Japanese beetle are following the continued distribution of milky disease spore dust, the biological product used to control the grubs. During the year the distribution of the disease organism was concentrated largely in essential grass or turf areas in military establishments, particularly on airplane-landing fields where the grubs are a problem.

FOREST INSECTS

Spectacular control of the gypsy moth was obtained in the spring of 1944 in a large-scale experiment in Pennsylvania involving the aerial application of DDT. The spray, released through a specially constructed distributor, settled through the forest as a fine mist which gave good coverage of exposed surfaces of trees, undergrowth, and the forest floor. All of the small caterpillars were killed when they started crawling and came in contact with the DDT. No living gypsy moth larvae were found in the treated area. A series of spraying experiments was conducted in the spring of 1944 in cooperation with the National Park Service and the Forest Service against an extensive outbreak of the spruce budworm which has killed or weakened tremendous quantities of Douglas fir, alpine fir, white fir, blue spruce, Englemann spruce, and ponderosa pine. The results indicate that it may be possible to control this pest by the application of DDT at the rate of two to five pounds per acre.

COTTON INSECTS

Tests on high-yielding Louisiana cotton soils confirmed previous results that the recommended poundage per acre of calcium arsenate could not be materially reduced without sacrificing part of the potential gains in boll weevil control and that the largest increase in yield of cotton per pound of calcium arsenate resulted from delaying the first application until 20 to 25 per cent of the squares were punctured.

In preliminary experiments against several cotton insects in Louisiana, Texas, and Arizona, DDT was found to be less effective against the boll weevil than calcium arsenate, less effective against the cotton aphid than nicotine, and less effective against the cotton leafworm than arsenical insecticides. Encouraging results with DDT were obtained in preliminary tests against the bollworm, pink bollworm, thrips, plant bugs, and stinkbugs, all of which have been difficult to control.

BEE CULTURE

Studies have indicated that a decrease in the yields of alfalfa seed, which in Utah declined from 6½ bushels per acre in 1925 to 1½ bushels in 1942, may be attributed largely to the decimation of native pollinating insects and to an apathetic beekeeping industry caused by years of low honey prices. Although arsenic is the chief cause of bee poisoning, tests with DDT and with dinitro-o-cresol, both new spray materials and the latter being used for thinning fruit, indicate that they may become a menace both to pollination and to beekeeping. Neither material was repellent to bees.

INSECT IDENTIFICATION

Identification by authoritative specialists was reported for 59,956 insect samples contained in 33,668 lots. Direct assistance was given the Army and Navy in identifying approximately 2,000 samples of mosquitoes, mostly from the war areas, and nearly as many samples of miscellaneous insects collected on Army transport planes operating abroad; also, personal instruction was given to 122 officers in the identification of mosquitoes and other insects involved in the transmission of human diseases.

PLANT DISEASE CONTROL

The white pine blister rust control program has been continued despite difficulties resulting from the war emergency. Initial eradication of ribes has now been completed on over 22,000,000 of the 28,000,000 acres in the control area, and of this acreage about 7,000,000 have been reworked. Some extension of the known distribution of the disease occurred in 1943 in California and in the North Central States.

During 1943 a total of 1,715,933 rust-spreading barberry bushes were destroyed in 252 important grain-producing counties to protect wheat, oats, barley, and rye from stem rust. Work was undertaken by local agencies in Washington State with some technical assistance from the Bureau, in 1943, this being the eighteenth state to join in the cooperative barberry eradication program.

All federally financed tree removal in connection with the Dutch elm disease control program was discontinued in February to conform with a proviso in the Agricultural Appropriation Act for the fiscal year ended June 30, 1944, leaving to states and property owners the responsibility for removing trees in which the causal agent of the disease has been found. Emphasis has been shifted from eradication of known sources of the disease to the maintenance of a constant watch on its spread so that quarantine measures may be enforced. Large-scale field experiments were undertaken to determine what action, if any, may be taken by individuals, municipalities, or other political units to protect valuable elms from this disease when it occurs generally in the area.

FOREIGN PLANT QUARANTINE INSPECTIONS

The rapid expansion of air-borne commerce presented a major plant quarantine problem during the fiscal year 1944. The inspection of airplanes now arriving in a continuous flow, which only a few hours previously departed from many different foreign countries, has become an activity of first importance. Approximately 22,000 airplanes were inspected, an increase of 65 per cent over 1943. Prohibited plant material was found in 3,031 of the airplanes inspected. The gravity of the pest risk associated with air commerce is emphasized by the speed with which a plant pest can be transported by this means.

FISHERIES

By Charles E. Jackson
Assistant Director, United States Fish and Wildlife Service

WAR'S EFFECT ON FISHERIES

The United States is one of the few nations which has been able to carry on its fisheries during the war years without serious interruption or a disastrous decline in production. Unlike the North Sea or the Mediterranean, American fishing grounds have not been the scene of prolonged conflict, and despite the dangers created at times by submarine warfare in the North Atlantic or by Japanese encroachments in the Bering Sea, United States fishermen have continued at their wartime job of producing food.

As a result, our fisheries have been able consistently to increase their yield since the first year of the war. Since 1942, when the catch declined to 3,700,000,000 pounds, chiefly as a result of the loss of boats to the military services, production has risen to 3,900,000,000 pounds in 1943 and to 4,200,000,000 pounds in 1944. This is not far below the normal peacetime yield of some 4,400,000,000 pounds.

REBUILDING THE FISHING FLEET

During the first weeks of war, about 700 fishing vessels were requisitioned by the Army and Navy for military use. These boats have performed an essential service in transporting supplies and patrolling coasts in this and remote parts of the world. As the construction of military craft has proceeded, it has been possible gradually to return requisitioned vessels to fishing. By the end of 1944, probably 50 per cent of the vessels borrowed had been returned or were about to be returned to the fishing industry.

Even more important additions have been made to the fishing fleet through new construction. By the end of 1944, the Office of the Coordinator of Fisheries had authorized, under War Production Board regulations governing the use of critical materials, the construction of 1,379 new fishing boats, 1,048 of which were scheduled for completion by Dec. 31. Owing to various conditions, not all of these boats were actually completed; however, a substantial number were in active use by the end of 1944.

Although the present fishing fleet is somewhat smaller than the pre-war fleet, it consists of an unusually high proportion of new, fast, and efficient craft. Its productive capacity is believed to be at least as great as that of the larger pre-war fleet. However, many of the boats are operating with small crews, and sometimes it has proved impossible to recruit enough men to operate a new vessel. The shortage of fishermen, and especially of skilled captains and mates familiar with the intricacies of complex fishing gear, probably will continue to plague the industry for some time to come.

FRESH AND FROZEN FISH

Largely as a result of the restoration of the New England fishing fleet, abundant supplies of fresh and frozen fish were available. New England receives a larger poundage of fish intended for the fresh fish markets than any other section of the country, and its products are marketed widely throughout eastern and central United States. The larger landings at New England ports, therefore, provided an abundance of cod, mackerel, haddock, rosefish, and other fish from the north Atlantic grounds for most of the larger cities in these areas, although distribution difficulties prevented many smaller communities from receiving their share of fish.

In 1944, as in the preceding year, Gloucester was the leading port in the handling of fresh fish. It received 43 per cent of the fish landed in New England, or 187,600,000 pounds, the largest volume of fish ever brought to

Gloucester docks. Boston, in second place, received 151,200,000 pounds; New Bedford, which is rapidly coming into prominence as a fishing port, received 74,450,000 pounds. Landings at Portland totaled 17,118,000 pounds.

In the South, where the fisheries are concerned chiefly with shellfish such as shrimp, crabs, and oysters, smaller quantities of fresh fish were marketed than in the preceding year. Likewise in the Pacific Northwest, the trawl fisheries for flounders, lingcod, and other bottom fish were somewhat less productive, and receipts at Seattle declined at least 25 per cent compared with 1943.

CANNED FISH

To the civilian consumer, canned fish was scarce in 1944. This was largely because more than half of the pack of most species was requisitioned by the Government for overseas shipment. As a result, civilians received only about a third of their normal supply of some kinds of salmon, and slightly less than half as many sardines and mackerel. Tuna was more generally available, but large quantities were purchased by the military services even though the pack of this fish was not under formal reservation by the Government.

Although supplies for civilians were short, more canned fish was packed in 1944 than in the preceding year. The Maine sardine fishery broke all previous records with a pack of more than 3,000,000 cases. The Pacific tuna fishery had one of the best years in its history, despite the fact that many of its clippers remained in military service and had not as yet been replaced by new construction. The 1944 pack of approximately 3,500,000 cases has been exceeded only twice: in 1939, when 3,600,000 cases were packed, and in 1940, when the pack was 4,200,000 cases. Other canned fish industries which increased their production in 1944 were the Pacific sardine or pilchard fishery, which packed 3,700,000 cases, and the Pacific mackerel fishery, with 900,000 cases.

On the other hand, the salmon industry, which ranks first in volume and value among United States canned fish industries, put up the smallest pack since 1925—5,100,000 cases. The decline was largely owing to scarcity of fish, for the runs in some areas were scant. On the Gulf and south Atlantic coasts another canned fish industry had a relatively poor year; only 390,000 cases of shrimp were packed, whereas the recent average has been about 600,000 cases. In this instance, economic difficulties, rather than scarcity of raw materials, accounted for the drop.

SHELLFISH INDUSTRIES

The shellfish industries felt the shortage of manpower acutely. Local shortages of oysters developed as a result of the scarcity of labor in the shucking houses; oysters and clam canneries were short-handed; shrimp boats often had skeleton crews. In Alaska, a small pack of the giant king crab, formerly exploited by the Japanese, again was made, and explorations were undertaken by the United States Fish and Wildlife Service to investigate the feasibility of developing an Alaska shrimp industry. The new fishery for the ocean quahaug, a relative of the hard-shelled clam, became more firmly established in Long Island Sound; more extensive use also is being made of the New England surf or skimmer clam. Despite the shortage of fishermen and scarcity of ropes for buoy markers and lath for lobster pots, the catch of Maine lobsters was the largest in 50 years.

FISH MEAL AND OIL

In addition to their direct role in human nutrition, fish are used extensively in the manufacture of feed stuffs for poultry and live stock and thus make an additional, indirect contribution to the nation's food supply. Chief sources of fish meal are the pilchard, menhaden, and Pacific herring fisheries, although small quantities of meal are also processed from waste in the tuna and mackerel canneries. Although the fisheries which chiefly support the fish meal industry were all highly productive in 1944, production was far below the 265,000 tons estimated as necessary to meet all requirements. About 197,000 tons of meal were manufactured in 1944, compared with approximately 186,000 tons in 1943 and 171,000 tons in 1942.

Fish oil, a byproduct manufactured along with meal, has a wide variety of industrial uses and is also used in animal feeds although its vitamin content is low compared with liver oils. Production of fish oil (chiefly from pilchard, herring and menhaden) in 1944 was well above the average immediately before the war.

SEAWEED INDUSTRY

The output of America's new seaweed industry, developed to provide the agar and other essential products which before the war came almost exclusively from Japan, is now limited chiefly by the shortage of divers and processing equipment rather than by any scarcity of seaweeds.

At the present time the best quality of agar, a substance essential in bacteriological research and highly useful in many industrial processes, comes only from seaweeds of the type known as Gelidium. Surveys have revealed beds of this seaweed off the Pacific coast which are more than sufficient to supply all that can be harvested within the next few years with present facilities.

While the gum from Gelidium is the only substance that meets the exacting requirements of bacteriologists as a culture medium, another seaweed, Gracilaria, yields a gum that can be used satisfactorily in most industrial processes that formerly utilized agar. Production of Gracilaria gum is now an established industry on the Atlantic coast in Massachusetts and North Carolina, and has recently been undertaken at several points on the Pacific Coast.

VITAMIN A OILS

About three-fourths of the vitamin A used in the United States is now derived from the shark fisheries, which have made a phenomenal growth, especially on the Pacific Coast. Among the sharks, principal sources of vitamin A are the soupfin shark, found on the Pacific Coast of the United States, and the dogfish. The soupfin shark has a large liver which yields an oil of exceptionally high vitamin content. The intensification of the fishery for this valuable species, especially since foreign sources of supply have been cut off by the war, has already resulted in some indications of depletion. The yield of soupfins was variable during 1944; that of dogfish, on the other hand, rose to unprecedented levels. In addition to sharks, halibut, lingcod, sablefish, tuna, and cod are important domestic sources of vitamin A.

POST-WAR DEVELOPMENT OF THE FISHERIES

The post-war fleet is expected to be a larger, more efficient instrument of production than the United States fishing industry has ever before possessed. Numerically, it will probably be about 10 per cent larger than before the war; in productive capacity, it should be at least 20 per cent more efficient.

Along with improvements in its motive power, range, and handling qualities, there will probably come wholly new equipment such as sensitive listening devices to locate schools of fish beneath the surface. A beginning has already been made in use of factory ships equipped to fillet, freeze, and package fish at sea. Floating salmon and crab canneries now operate on the Pacific Coast, and tuna clippers are equipped to freeze their catches taken off Latin America. The development of a fleet of factory ships in the New England area would open up new fishing grounds in distant waters.

In the field of marketing, a few experimental shipments of seafoods by air were made in 1944. Newly developed plastic products may provide greatly improved, air-tight packaging for fish, and new knowledge of methods of freezing are expected to result in a product that can be shipped in excellent condition to inland communities. Among vast, practically untapped fishery resources remaining in

United States waters are anchovy populations of the Pacific Coast and large flounder, cod, and crab resources in Alaska. Post-war expansion may well see the development of important industries based on these resources.

FORESTRY

By Charles E. Randall
United States Forest Service

GENERAL

Lumber and pulpwood were among the most critically needed war materials in 1944. In spite of extraordinary efforts to stimulate production, output of lumber fell some 4,000,000,000 to 6,000,000,000 feet below consumption. Civilian consumption was cut to the bone, but essential requirements continued in excess of production, and making up the deficits reduced stocks to a dangerously low level.

The Timber Production War Project, launched in 1943 by the U. S. Forest Service in cooperation with the War Production Board, aided materially in increasing output in states east of the Great Plains, especially by smaller mills. By helping operators obtain stumpage, recruit and train their working forces, and meet problems of absenteeism, equipment breakdowns, and other emergencies, project foresters during the first 12 months of the Project brought about production of more than 2,000,000,000 board feet that would not otherwise have been produced. To help relieve labor shortages, 9,000 German and Italian prisoners of war were trained for employment in timber and pulpwood cutting.

TIMBER SALVAGE PROGRAMS

In January, 1944, a severe sleet and ice storm damaged timber over large areas in eastern Texas and western Louisiana. A survey of the storm area indicated that salvage of storm-damaged timber would be feasible on about 400,000 acres. Salvageable damaged material on this area was estimated at approximately 750,000 cords of pulpwood and 100,000,000 board feet of saw-timber. Since this material was urgently needed for war purposes, a Federal project, known as the Texas Timber Salvage Program, was set up. The Forest Service administered the project as an agent of the Disaster Loan and Federal Surplus Commodities Corporations.

On Jan. 1, 1944, the Forest Service figuratively "sawed the last log" in the much larger timber salvage program launched in 1938 as a result of the disastrous New England hurricane. The 1938 hurricane left wind-thrown timber scattered over 15,000,000 acres—one-third of New England. The Northeastern Timber Salvage Administration, administered by the Forest Service acting as agent for the Federal Surplus Commodities Corporation and financed by the Disaster Loan Corporation, undertook the job of aiding land owners to salvage as much of the wind-thrown timber as possible before insect damage and decay made it unsalvageable. The Forest Service established log grades and prices to prevent disorganization of the timber market, set up more than 800 receiving sites, purchased and stored logs, sawed or contracted for sawing them into lumber, and channeled the lumber into market outlets. At the close of the program more than 660,000,000 board feet of saw-logs and 30,000 cords of pulpwood had been purchased from 13,000 timber owners. Most of this timber otherwise would never have been salvaged.

ALASKA TIMBER

Plans for the development of a permanent pulp and paper manufacturing enterprise in Alaska were considered by the Forest Service in the late 1920's, but with the coming of the depression of the 1930's the plans were dropped. The possibilities were being restudied in 1944 in the light of changed conditions and at the suggestion of industry representatives who felt that the post-war raw material supply and the market situation will probably permit and justify the development of the industry in Alaska. The Forest Service invited inspection by interested parties of a designated large timber tract in the southern part of the Tongass National Forest and prepared a tentative draft of the conditions under which the timber may be offered for sale at the close of the war.

The Tongass National Forest contains an estimated 78,500,000,000 board feet of timber consisting of approximately 74 per cent western hemlock, 20 per cent Sitka spruce, and 6 per cent red and Alaska cedar. According to the Forest Service, the opportunity exists for the establishment of a number of permanent pulp and paper enterprises founded on sustained supplies of timber coming from a publicly owned forest that will be managed for continuous yield. The industry would have an almost year-round logging season, cheap log transportation along protected sea channels between wood and mill operations, and ocean shipping for inbound mill supplies and outbound products. The Forest Service will insist that the plans of concerns entering this new field call for operations of a type that will maintain continuous forest growth, promote steady employment, and foster the building up of thoroughly modern industrial communities.

FOREST AND RANGE RESEARCH

Results showing how best to manage forests are accruing increasingly from silvicultural research. For example, 30 years of research on managed ponderosa pine stands in the Southwest show that a 30-year cutting cycle is too long, and that shorter cycles of about 10 years give the best growth.

Development by the Forest Service of short-cut sampling methods for log scaling may save thousands of dollars annually in timber sale administration costs.

Studies in the Northeast have piled up additional evidence that waste of man-power results from cutting undersized trees. It takes 10 man-hours per thousand board feet to cut and skid 6-inch trees; 5.5 man-hours for 12-inch trees. Milling these small trees wastes even more man power; to saw 1,000 board feet from 6-inch trees requires 9 man-hours; from 12-inch trees, 3.

Research developed successful methods of planting red spruce and red pine on devastated lands heretofore considered unplantable in the Appalachians. Success depends largely on skillful application and timing of a release cutting to remove vegetative competition.

Continued forest management investigations will be needed to appraise and develop efficient cutting and logging methods that will insure a maximum sustained flow of raw forest products from the woods and supply an enlarged and fully integrated forest utilization industry. The kind and volume of trees removed today vitally affect future yields and opportunities for profitable utilization as well as present returns. The way in which forest transportation systems are laid out under present logging methods greatly affects the future as well as present logging costs and marketability of the stand.

Intensive utilization of low-grade bottomland hardwoods in the South, unless accompanied by positive measures to renew and improve the forests, will merely provide more space for a choking growth of worthless weeds and briars. In the same way, control of invading low-grade hardwoods on pine lands—a major problem and need in the South—is both a utilization and a forest management problem. Integrated utilization in the Pacific Northwest built on Douglas fir and involving large investments in plants and forest properties organized for sustained yield will run into serious difficulties if practices are not followed that will perpetuate Douglas fir in sufficient proportions to other species. Expanding markets for pulpwood in the Lake States and South, together with less accessible timber supplies and resultant rising raw material costs, has put a premium on the development of more effective and cheaper methods of producing pulpwood.

Results of research on reseeding western ranges show the possibilities of large-scale restoration and improvement of forage yields. In eastern Oregon, where summer ranges produce only two-thirds enough forage to balance the forage available on spring-fall ranges, methods of reseeding mountain summer ranges were devised in cooperative studies by the Forest Service and the Oregon Agricultural Experiment Station. Forage production is increased five to 25 times on such depleted areas as burns and skids trails and as much as 70 times on those areas practically denuded by past overgrazing and sheet erosion. Cheap but effective methods have also been developed for reseeding certain types of range land in Utah, Idaho, and Nevada.

FOREST PRODUCTS LABORATORY

The Forest Products Laboratory concentrated its work during the year on the research and technical services needed further to increase the utility and value of forest products in meeting war and essential civilian requirements.

At the request of the Bureau of Ships and the War Production Board, methods were developed for producing laminated ship timbers to permit the use of small dimension lumber and reduce the need for large timbers. Specifications for portable sawmills for combat units were revised for the U. S. Engineers Board.

"Staypak," a form of compressed wood of high density and strength, and requiring no resin, was a new Laboratory development. Its suitability for airplane propellers and other war uses is being tested.

Results of a pilot-plant study on the hydrolysis of wood and on the fermentation of the resulting wood sugars, conducted in 1943 by the Forest Service for the War Production Board, served as a basis for engineering plans for a commercial plant to be constructed at Springfield, Ore. for the production of industrial alcohol from mill wastes.

"Uralloy" is the Forest Products Laboratory's name for a group of products resulting from development of methylolurea treatment of wood to make it harder, stiffer, and more stable dimensionally. Three public service patents have been granted covering the Laboratory's basic work on the treatments and products. The DuPont Company announced a promising new wood treatment based on this work.

We are now on the scientific frontier of a new era in forest utilization. In the past the major utility of wood has been for shelter and fuel. Progress in science has greatly expanded the potentialities of wood as an industrial raw material for an increasingly wide range of uses. Continued research may be expected to create new industries and strengthen old ones.

UTILIZATION OF WOOD WASTE

Woods and mill wastes, says the Forest Service, aggregate millions of tons a year and amount to from one-half to two-thirds of the nation's total wood crop. In pulp manufacture, the non-cellulose portions of wood have been almost entirely a waste and a nuisance. One promising field for utilization of wood wastes lies in the fact that the cellulose of wood can be readily and cheaply converted to sugar. Through the ordinary process of fermentation, yields of industrial alcohol of from 50 to 60 gallons per ton of dry softwoods can be obtained, but with further research nearly 50 per cent greater yields should be possible. Wood sugar may be converted also by other types of fermentations to any of the vast series of products potentially derivable from the interaction of micro-organisms and sugar. One important possibility is the conversion of wood sugar to high protein stock feeds. With present techniques a cord of wood can be converted into one-third ton of high protein feed, approximately equivalent in protein content to about 50 bushels of corn.

In the production of wood sugar, one-fourth of the wood by weight remains as lignin. The values inherent in this material may exceed the values obtainable from the sugars themselves. Lignin, on a laboratory scale, has been made to yield valuable phenols and cresols and a whole series of potentially more valuable chemicals. Lignin is closely related to humus. It seems highly probable that by the proper combination of lignin with cheap nitrogen, methods can be developed for the utilization of lignin by-products of wood hydrolysis as a fertilizer material carrying nitrogen in a properly available form and leaving a humus residue. Lignin produces conversion products useful in the making of plastics. There is a huge field here to be explored for cheaper plastics and valuable by-products. Forest utilization research, combined with positive measures that will insure the sustained productivity of the forest resource itself, can bring benefits transcending all previous conceptions.

SURVEY OF PRIVATE FORESTRY

A two-year study of forestry practice on private lands in the United States, made under the auspices of the National Lumber Manufacturers' Association, was completed in 1944. The survey was made by Dr. C. F. Korstian, dean of the Duke University School of Forestry, and past president of the Society of American Foresters. Dr. Korstian's report indicated a substantial increase in the application of sound forestry practices to privately owned timber lands, but said the surface of good forestry practice has only been scratched. For the country as a whole, only 8 per cent of the privately owned forest lands are estimated to be under forest management and another 21 per cent under practices favorable to continuous forest production.

"Even after all reasonable incentives in the form of information, co-operative assistance, and subsidies have been made available," states the Korstian report, "a large number of forest landowners and operators will still intentionally or unintentionally fail to apply voluntary forestry practices that will keep their lands productive . . . Public control of forest cutting practices on private lands now appears inevitable. In almost every country in the world where forests are important it has been found necessary to apply some sort of public control over their exploitation. The United States will not long remain an outstanding exception."

LATIN AMERICAN STUDIES

Forest Service men assigned to forest resource surveys in Latin America gave substantial aid to the U. S. Engineers, Pan American Division, in the use of local woods on highway construction in Costa Rica. In Ecuador, the possible usefulness of local woods in a wood shipbuilding program was studied. Advice and technical guidance was furnished to .the United States and to local agencies on wood and timber in both Costa Rica and Ecuador.

At the request of the Corporacion de Fomento de la Produccion, an agency of the Chilean Government, the Forest Service sent a five-man mission to Chile to study that country's forest resources and the possibilities for expanding its wood utilization industries as a means of strengthening her internal economy.

GENERAL FOREST SITUATION

The Forest Service reported that in three decades prior to the current war the estimated total reserve of standing sawtimber in the United States was reduced almost 40 per cent. Probably it was reduced even more, as the earlier estimate of total timber volume did not include some species now considered of commercial value.

The drain on the forests continues in excess of the annual rate of timber growth. The Forest Service estimated that wartime drain (which includes losses owing to fires, insects, disease, and other causes but the bulk of which is from timber cutting) has been almost 17,000,000,000 cubic feet a year. Current growth is estimated at about 11,200,000,000 cubic feet. Thus total current growth is only about two-thirds of current drain. For sawtimber sizes, current growth is not much more than half of current drain. Much of the drain is of high quality old-growth timber, whereas much of the new growth is of greatly inferior quality.

Such a downward trend can result only in increasing scarcity of timber and increasing cost of timber products. Since wood is the raw material of thousands of products essential to modern living and enters in one way or another into the manufacture, processing, or delivery of practically all other products, that can not help but have an adverse effect upon the nation's future economy.

The annual report of the U. S. Department of Agriculture said that timber depletion already has gone so far that a period of reduced supply of forest products seems inevitable. Even if prompt and adequate measures are taken to grow more timber, it will take some years for the new growth to reach usable size.

In the long run, however, the report stated, the excess drain on forest resources should be eliminated not by permanently curtailing national consumption of forest products but by increasing the rate of timber growth. Post-war prosperity, it added, should be built upon a program of plenty, not of scarcity.

A long-range estimate by the Forest Service places our future annual requirements for timber at 21,400,000,000 cubic feet. There is every indication that this estimate is conservative, as it includes only a small allowance for new developments in the use of wood—new uses that may greatly increase demands.

Even to provide an annual timber growth of 21,500,000,000 cubic feet, however, will mean that the nation's present annual timber growth will have to be practically doubled. To accomplish this, according to the Forest Service, we shall have to stop further depletion on our remaining productive timberlands, and we shall have to do a big job of restoration on millions of acres that already have been reduced to non-productivity.

PERIODICAL PUBLICATIONS

Agricultural Education
1714 Locust Street, Des Moines, Ia.
Agricultural Engineering
American Society of Agricultural Engineers, St. Joseph, Mich.
American Agriculturist
Savings Bank Bldg., Ithaca, N. Y.
American Forests
American Forestry Association, 919 Seventeenth St., N.W., Washington, D. C.
American Fruit Grower
1370 Ontario Street, Cleveland, O.
Country Gentleman
Curtis Publishing Company, Independence Square, Philadelphia.
Cotton Trade Journal
Cotton Exchange Bldg., Memphis, Tenn.
Dairy World
608 South Dearborn Street, Chicago.
Farm Journal
Farm Journal Inc., Washington Square, Philadelphia.
Fishing Gazette
461 Eighth Ave., New York City.
Hoard's Dairyman
Fort Atkinson, Wis.
Journal of Agricultural Research
Superintendent of Documents, Washington, D. C.
Journal of Dairy Science
North Queen Street, Lancaster, Pa.
Journal of Farm Economics
American Farm Economic Association, Menasha, Wis.
Journal of Forestry
Society of American Foresters, Mills Bldg., Washington, D. C.
Pacific Fisherman
71 Columbia Street, Seattle, Wash.
Produce Guide
165 Duane Street, New York City.

Successful Farming
Meredith Publishing Company, Des Moines, Ia.

Wallace's Farmer and Iowa Homestead
1912 Grand Ave., Des Moines, Ia.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Assn. of Nurserymen, P.O. Box 355, Louisiana, Mo.
American Country Life Assn., 297 Fourth Ave., New York City.
American Farm Bureau Federation, 58 E. Washington St., Chicago, Ill.
American Forestry Assn., 919 Seventeenth St., N.W., Washington, D. C.
American Meat Institute, 59 East Van Buren St., Chicago.
American National Livestock Assn., 515 Cooper Bldg., Denver, Col.
American Ornithologists' Union, Ohio State University, Columbus, Ohio.
American Phytopathological Society, Bureau of Plant Industry, Washington, D. C.
American Poultry Assn., 3030 Brady St., Davenport, Iowa.
American Society of Agronomy, Agricultural Experiment Station, Morgantown, W. Va.
American Society of Animal Production, Kansas State College, Manhattan, Kans.
American Society of Equity, 311 Daily Star Bldg., Minneapolis, Minn.
American Society for Horticultural Science, Lock Box 299, Geneva, N. Y.
American Society of Mammalogists, Museum of Zoology, University of Michigan, Ann Arbor, Mich.
American Veterinary Medical Assn., 600 S. Michigan Ave., Chicago, Ill.
Association of Land-Grant Colleges and Universities, c.o. Experiment Station, Lexington, Ky.
Boyce-Thompson Institute for Plant Research Inc., 1086 N. Broadway, Yonkers, N. Y.
Dairymen's League Co-operative Association, Inc., 11 W. 42nd St., New York City.
Farm Women's National Congress, Clarksville, Ia.
International Farm Congress of America, Continental Bldg., Kansas City, Mo.
Izaak Walton League of America, La Salle Hotel, Chicago, Ill.
Jewish Agriculture Society, Inc., 386 Fourth Ave., New York City.
Middle Atlantic Fisheries Assn. Inc., 203 Front St., New York City.
National Audubon Society, 1006 Fifth Ave., New York City.
National Board of Farm Organizations, 1731 I St., N.W., Washington, D. C.
National Dairy Council, 111 N. Canal St., Chicago, Ill.
National Educational and Co-operative Farmers' Union of America, 1731 I St., N.W., Washington, D. C.
National Fertilizer Assn., 616 Investment Bldg., Washington, D. C.
National Grange, 970 College Ave., Columbus, O.
National Highways Association, Bass River, Cape Cod, Mass.
National Livestock and Meat Board, 407 S. Dearborn St., Chicago, Ill.
National Poultry Council, Davisville, R. I.
People's Lobby, Inc., 1410 H Street, N.W., Washington, D. C.
Society of American Florists and Ornamental Horticulturists, Inc., 600 S. Michigan Ave., Chicago, Ill.
Society of American Foresters, 825 Mills Bldg., Washington, D. C.
United States Livestock Sanitary Assn., 33 Livestock Exchange Bldg., Wichita, Kan.
Vegetable Growers' Assn. of America, c.o. F. L. Allen Co., Philadelphia, Pa.
Women's National Farm and Garden Assn., Inc., Amber, Pa.

DIVISION XII

MINERAL INDUSTRIES

GOLD AND SILVER

By Walter Renton Ingalls
Consulting Engineer, New York

GOLD

Little need be said in respect of gold production in 1944. The American Bureau of Metal Statistics estimated the world's total in 1943 at about 30,000,000 oz., compared with the immediately pre-war total of about 41,000,000 oz. Production in 1944 doubtless will prove to be less than in 1943. The output of South Africa was about 1,024,000 oz. per month, *vs.* 1,070,000 oz. in 1943; Canada about 250,000 oz. *vs.* 300,000 oz.; and the United States, 84,000 oz. *vs.* 114,000 oz.

For many years, estimates of world production of gold have included nothing but conjectures for Russia and Japan, such as Russia having produced 4,000,000 oz. per annum, and Japan, including Korea and Manchuria, about 2,000,000 oz. per annum.

The decline in gold production in the United States has been owing to prohibition of the use of labor for that purpose. The production that has continued has been substantially limited to that which is derived as a companion product in the metallurgy of copper and lead. Similar conditions have existed in Canada. In other parts of the British Empire, including South Africa, West Africa, Southern Rhodesia, Western Australia, and British India the gold production is derived from ores yielding only that metal.

The monetary stock of gold in the hands of the United States Government experienced little change during 1944. The following statistical survey is from the *Federal Reserve Bulletin,* with my own translations from dollars to ounces: At the end of 1928 the central gold reserves of the United States were $3,745,000,000 (181,180,500 oz.); and of all foreign countries $6,310,000,000 (305,273,300 oz.). At the end of September, 1944, the United States had $20,825,000,000 (595,000,000 oz.) and foreign countries $14,385,000,000 (411,000,000 oz.). The world's gold reserves at the end of 1913 were $4,900,000,000 (237,058,500 oz.).

By central gold reserves is meant those of central banks and governments. Gold coin and bullion held by others is not included. The increment from 1928 to 1944 is ascribable mainly to new production but there is included $1,240,000,000 (41,569,000 oz.) derived chiefly from liquidation of hoards of the Indian public, stimulated by new conditions of valuation, especially after 1933.

SILVER

The production of silver in the United States in 1943 was about 45,000,000 oz. from domestic ore. In 1944 the monthly average was about 3,340,000 oz., indicating a year's total of about 40,000,000 oz. In 1943 American smelters and refiners produced 51,300,000 oz. from foreign ores and base bullion. In 1944 the monthly average was about 3,250,000 oz., indicating a total of about

39,000,000 oz. for the year. In as much as silver in the United States is almost entirely derived as a by-product from copper and lead ores, the decline in silver production in 1944 correlates more or less with the decline in the production of copper and lead ore.

It has not been possible to offer any complete estimate of the world's production of silver since 1940, for which year and the triennium immediately preceding the total was about 275,000,000 oz., of which about 175,000,000 oz. was from North America and about 32,000,000 oz. from Central and South America. In 1943 the total was 150,000,000 oz. for North America and 30,000,000 oz. for Central and South America. As to North America in 1944, apart from the declines in the United States and Canada, there was also a lower production in Mexico, owing among other things to the long strike of miners during the summer. Production of Central and South America was evidently about the same as in 1943.

The stock of silver held by the United States Treasury at the end of 1943 was 92,111 tons (of 2,000 lb. avoirdupois) compared with 97,286 tons at the end of 1942. Most of this was in bullion pledged against silver certificates and bullion unpledged, part of the latter having been loaned to the Defense Plant Corporation for use in place of copper, and otherwise.

Since Pearl Harbor assignments of silver from the United States Treasury, according to a statement by Secretary Morgenthau, Dec. 8, 1944, have been as follows (in millions of ounces): loaned to war plants, 903; supplied to foreign governments under Lend-Lease, 243.7; sold from "silver ordinary" stocks to industrial users, 5; sold in accordance with the act of July 12, 1943, 41; used in the coinage of wartime silver nickels, 33.6; total, 1,226.3.

An important feature in the silver statistics of the United States is the increasing use of this metal for industrial purposes, which use aggregated 125,000,000 oz. or 4,286 tons in 1943. Besides the use for sterling ware, plated ware, and nitrate (whereof the major part for photography), other important uses, increasing in volume, have been for machinery bearings, electrical contacts, dental and surgical supplies, insignia and jewelry.

IRON AND STEEL

By Thomas C. Campbell
Commercial Editor, *The Iron Age*

RECORD STEEL OUTPUT

Even though steel demand started to fall off by midyear, 1944 will go down in history as a record year for steel output. About 89,500,000 net tons of steel were turned out despite manpower shortages, schedule difficulties, strikes and abnormal demands for the war fronts. As the year closed a reversal in steel needs, paced by war requirements resulting from European events, indicated a secondary war steel peak.

WAR FACTORS IN PRODUCTION

In the fall of 1944 many military and industrial officials seemed to feel that the war with Germany would end before the year was out. This attitude had its effect on war demand by an acceleration of cutbacks and cancellations. It also, to some extent, caused a letdown in industrial efficiency. Orders by September were in smaller volume when compared with previous months, and operating rates began to show the result of these conditions. Even the WPB several months ago was confident that the industry in the fourth quarter would average about 94 per cent of rated capacity, a condition which did not materialize.

Then came the sudden realization that the war was not won by any means. The military looked over programs, expanded some, reinstated others, and inserted new ones. One of the quick changes involved shell steel which had been cutback last October. This program, late in the year, looked as though it would expand from about 300,000 net tons in December to more than 560,000 tons in March of 1945 and more than that in case Germany was not defeated by that time. The output of shell steel causes pushbacks on such items as semi-finished steel, rails, and bars because many steel companies use the same mills or the same type of mills for these items to turn out the steel necessary for shells.

It became apparent by the beginning of 1945 that the steel industry was not to gear, immediately at least, to the output of civilian steel. Nor was it to receive the benefit tonnage-wise and pricewise of post-war plans of its consumers. All that conversation and planning had changed with the about-face in the war fronts of Europe, but it was quite certain that when these plans were eventually put into effect the steel industry (after a period of readjustment which was estimated to last about six months to a year) would feel the full effects of the belated and pent-up demand for all the civilian items which had been curtailed by WPB in the past few years. Not until the defeat of Germany was certain, however, was there to be an iota of hope that such orders would reach the mills in any other form than "conditional," meaning conditional to the extent that WPB and other government agencies made steel available for those purposes.

Many students of steel industry trends feel that the estimated cutbacks of 40 per cent in war contracts when Germany is defeated are too optimistic. They believe that Japan has had time and will have more time substantially to build defenses for their island possessions close to the homeland. It is also held, and it seems logical, that the Army and Navy in view of recent battle experience will tend to place the safety factor on equipment and material at a much higher level than was the case several months ago. Also the loss of battle equipment in Europe will probably call for sudden and troublesome changes in steel mill schedules to the extent that net steel tonnage will be reduced. This has been the case in the past when sudden military demands appeared in the midst of other long ranged plans and orders.

Nonetheless it is believed that the real war peak in steel has been passed, even though early 1945 will see a secondary war peak that will come close to the highs made in March and October of 1944. The industry can well be proud of its work in producing close to 64,000,000 net tons of finished steel in 1944 and in most cases exhibiting a record which found the military forces not wanting in steel for its war products.

Operation executives the past year as well as in other years used every piece of equipment capable of running and produced results which in normal peacetime periods would have been thought impossible. It is believed that after the war many of the mills and equipment which have been costly and which have been used only because of the wartime emergency will be retired in favor of more modern equipment and facilities. This may reduce the overall steel ingot capacity in the country after the war is won to close to 80,000,000 net tons of steel as compared with more than 93,000,000 currently.

PIG IRON AND STEEL OUTPUT IN NET TONS

Year	Pig Iron	Steel
1944..........	61,800,000*	89,500,000*
1943..........	62,769,947	88,836,366
1942..........	60,903,304	86,031,931
1941..........	56,686,604	82,839,259
1940..........	47,398,529	66,982,686
1939..........	35,677,097	52,798,714
1938..........	21,460,164	31,751,990
1937..........	41,582,550	56,636,945
1936..........	34,752,689	53,499,999
1935..........	23,937,423	38,183,705
1934..........	18,075,202	29,181,924
1933..........	14,947,074	26,020,229
1932..........	9,835,227	15,322,901
1931..........	20,637,516	29,058,961
1930..........	35,562,429	45,583,421
1929..........	47,727,661	63,205,490
1925..........	41,104,634	50,840,747
1920..........	41,357,105	47,188,886

* Estimated.

STEEL INGOT PRODUCTION

While interest is naturally centered on the outlook for 1945, some of which has been given above, it is also interesting to look into steel ingot production trends of 1944. On an overall steel production basis, open hearth steel output was maintained at from 96 to 100 per cent of capacity during 1944, despite the increase in new facilities. Contrasted to this experience the production of bessemer steel declined from a high of 88.5 per cent in March 1944 to about 80 per cent in December. Even more marked from a capacity operations basis was the experience of electric steel, which having reached 102.7 per cent of capacity in March 1943, continually dropped until in December 1944 it was around 67 per cent of rated capacity. The decline in actual production, however, was not as marked as the decline in percentage of operation figures.

ALLOY STEEL PRODUCTION

In 1939 total alloy steel output was but 6 per cent of total steel production. In 1943, however, alloy steel output climbed to about 15 per cent of total steel production. The falling off in orders for alloy steel in 1944 reflected a 12 per cent participation for that year. Comparative figures showing total output in thousands of net tons for alloy steel and carbon steel are as follows:

(Thousands of Net Tons)

	Alloy	Per Cent of Total	Carbon	Per Cent of Total	Total
1939	3,212	6.1	49,587	93.9	52,799
1940	4,966	7.4	62,017	92.6	66,983
1941	8,206	10.0	74,633	90.0	82,839
1942	11,526	13.4	74,506	86.6	86,032
1943	13,150	14.9	75,235	85.1	88,385
1944	10,559	11.9	77,941	88.1	88,500

Even more important from steelmakers' interests is a breakdown of alloy steel in terms of open hearth and electric. In view of the substantial increase in electric steel capacity, open hearth makers of this type of steel expect rough competition.

On the other hand owners of electric furnaces are looking for identical viewpoints from open hearth alloy steel producers. One large electric steel producer stated that, regardless of the price differential between open hearth and electric steel, he will continue to operate his units. During the closing year of 1943, electric steel operators had the support of WPB, which threw alloy steel business to them at the expense of alloy open hearth output. This, however, did not last long because of the falling off in alloy steel demand, and within a few months a "free market" was established whereby the customer could specify the method of production.

Comparative figures on the output of alloy steel, both open hearth and electric, for recent years are as follows:

(Thousands of Net Tons)

Alloy Steel Output

	Open Hearth	Per Cent of Total	Electric	Per Cent of Total	Total
1939	2,459	76.7	749	23.3	3,208
1940	3,675	74.0	1,288	26.0	4,963
1941	5,740	70.1	2,462	30.0	8,202
1942	8,133	70.6	3,393	29.4	11,526
1943	9,217	70.1	3,933	29.9	13,150
1944	6,938	65.7	3,621	34.3	10,559

STEEL PLATE PRODUCTION

From a steel product standpoint, steel plates in 1944 continued to lead and represented almost 20 per cent of total steel production, similar to the 1943 experience. As long as the war continues and as long as the Maritime Commission is able to implement its desires, the percentage of plate production to total steel output will remain somewhat above pre-war levels. Generally speaking any decline during the next year in plate output will be immediately absorbed by sheet production. In 1939 sheet and strip output amounted to more than 30 per cent of total steel shipments but in 1944 it was only 19.2 per cent of total steel shipments. Furthermore, the financial return to steel companies on sheet output is more lucrative than is obtained on plate shipments. In 1939 plate production represented about 8 per cent of total shipments. In the post-war period, however, the abnormal increase in construction would suggest a greater participation for at least two or three years.

TIN MILL STEEL CONSUMPTION

In 1944 tin mill products consumed about 5.1 per cent of total steel output, compared to 8.1 per cent in the 1939 pre-war period. The difference between the two participations can be accounted for by necessary restrictive measures involving general line can products. After the war there are expectations that tin mill output will assume its normal percentage of total shipments. Since this is a lucrative product from a profit standpoint, the comeback can not come too soon for steel sales managers.

TUBE AND PIPE MAKING

Of interest to the steel industry and its consumers has been the recent trend in pipe making. Considerable talk has been current as to the inroads made by electric weld pipe. In 1939 seamless tube and pipe accounted for about 46 per cent of total tubes and pipe output. Electric weld represented about 12.4 per cent. By 1943 electric weld had climbed to 20 per cent of total pipe production, compared to 47 per cent for seamless, a substantial increase. However, preliminary figures for 1944 indicate that demand for seamless tubes has supported 50 per cent of total tubes and pipe output compared to about 17 per cent for electric weld.

Lapweld pipe, which according to some observers was written off as an outmoded product some years ago, continued to represent in 1944 about the same proportion of total pipe production as it did in 1939. This may be another indication that small steel companies can continue in business regardless of opinions to the contrary.

Buttweld pipe, which derives considerable support from construction activity, represented about 24 per cent of total tubes and pipe output in 1944, compared with 31.3 per cent in 1939. The drop in construction activity engendered by WPB curtailment was probably the major reason for the low participation in buttweld output. It is to be remembered, however, that actual production of buttweld pipe has increased since 1939. When construction activity picks up, it is anticipated that buttweld participation will rebound.

THE POST-WAR OUTLOOK

Although considerable emphasis has been placed upon post-war problems, the first few years after V-E Day will find steel demand measured by the ability to produce the required products. While the interval between war production and civilian production will take several months, there is little doubt in the industry that, after that period of readjustment, production will climb.

The consensus in steel circles is that three months after V-E Day operations may sag to as low as 50 per cent of capacity. Within six months after Germany is defeated, steel output may be between 65 and 70 per cent. At the end of 18 months steel experts believe that the influx of civilian orders plus strong Pacific war needs will support a rate of 90 per cent of steel capacity. Within one year after Germany is defeated, some analysts predict that civilian production will be about 80 per cent of 1939 output but the course of the Japanese war will govern this.

Other observers, however, believe that such a pattern may be too pessimistic. Those versed in export business see a demand from abroad extending for at least two years after the war which will be paced only by the capacity to produce. Whether or not steel companies will be able to benefit financially from such a demand depends upon their ability to balance prices with demand and at the same time offset high wage costs by more economical production and distribution.

COAL AND COKE

BY R. DAWSON HALL
ENGINEERING EDITOR, *The Coal Age*

MINING OUTPUT

During 1944, because the contracts between mine capital and labor were practically completed before the year began, strikes were fewer in the coal industry than in the preceding year. In consequence, the quantity of coal produced increased from 650,820,689 tons to about 684,500,000 tons, an increase of 5.2 per cent. Anthracite production which, in 1943, was 60,643,620 tons increased in 1944 to about 64,500,000 tons (a 6.3 per cent increase), and the bituminous coal output increased from 590,177,069 tons to 620,000,000 tons (5.1 per cent). On the other hand, beehive coke production decreased 11.2 per cent from 7,933,400 tons in 1943 to 7,048,100 tons in 1944, the decline being caused by the fact that larger quantities of byproduct coke were produced. Nothing but a shortage of byproduct coke occasioned the big advance in beehive coal production that signalized the earlier years of the present war. The output of beehive coke at the close of the year was about 35 per cent less than that at the same period in 1943. The beehive-coke industry is waiting tremulously for the end of the war and its inevitable nosedive.

It must be admitted that these figures are not final and that the final authoritative figures of the U. S. Bureau of Mines when released will be misleading because the transference of many men from the bootleg mines to legitimate operations has done much to boost recorded anthracite at the expense of bootleg coal, of which no accurate account is or will be available.

Increase in production and maintenance of former output despite loss of men to war industries and the armed forces is to be credited in large measure to the opening of strip pits and, in the anthracite region, to the reclaiming of coal from dumps where in earlier years were deposited marketable sizes and lumpier coal of intermixed quality which is broken for ejection of its impurities. This is made evident by the fact that "pea-and-larger" production has risen 4 per cent and barley and smaller 6.6 per cent with the production of buckwheats increasing in quantity as their sizes become smaller.

BOOTLEG COAL SITUATION

Only twice during 1944 did the anthracite tonnage drop below 1,000,000 tons per week and then not materially, whereas in 1943 there were four such drops, and they were longer-lasting and more severely restrictive of output. During the year, bootleg coal took a further heavy cut. Certainty that steady work at good wages was available at the mines and the unfriendly attitude of all authorities to the bootleg industry gradually made bootlegging unattractive. Injunctions in Schuylkill County, Pennsylvania, completely stopped 39 still-operating free-lance holes from which 187 miners and 66 truckers were producing 2,625 tons of commercial coal weekly.

THE STRIKE PICTURE

Though strikes were less frequent and widespread in 1944 than in 1943, there were enough of such disturbances to restrict operation. The year began with the mines in the hands of the Government and with Secretary of the Interior H. L. Ickes afraid to relinquish his hold for fear strikes against the operators would follow if the Government withdrew its control. On Jan. 17, Attorney General Francis Biddle ruled that satisfactory output records did not constitute such stability as to require Secretary Ickes to relinquish his control of mines if the latter thought strikes would follow the return of the properties to the coal companies. At that time, the Government still operated 3,000 mines, and only 476 had been returned, mostly small operations.

RELINQUISHMENT OF GOVERNMENT CONTROL

On April 7, the War Labor Board approved the contract made by Mr. Ickes with the anthracite miners to supersede that which expired April 30, 1943. The bituminous mining contract was similarly approved, May 19, by a vote of 10 to 2. On May 26, the operators with the exception of the Southern group accepted the agreement and undertook to pay the $40 settlement for travel within the mine between April 1, and Nov. 3 of 1944. The lowest wage paid is $8.50 for an 8¾-hr. day including travel time and 15 min. for lunch. This contract will expire April 1, 1945.

On June 16, E. R. Burke, president, Southern Coal Producers Association, signed the agreement for all the southern Appalachian operators, except the Jewell Ridge Coal Corp. of Virginia, which had withdrawn from the Association. Sixty per cent of the bituminous mines had been returned to their owners on May 31. Not, however, until June 16 was the anthracite pact ratified by the miners and then by 355 to 15. This contract will expire April 30, 1945. Utah mines were returned to the owners, June 2; Koppers mines, June 10; Montana, Wyoming, Idaho, Arkansas, and eastern Ohio mines, June 13. On June 21, it was announced that all mines were freed of Government control, except those of Jewell Ridge.

REJECTION OF U.M.W.A. DEMAND

The close of the year was to see more strikes due to the enrollment of the supervisory forces of the coal companies in District 50 of the United Mine Workers of America, United Clerical, Technical and Supervisory Employees Union, a "district" as wide in its geographical scope as the union to which it is subsidiary. Despite the clause in the union contract which declares that the supervisory officials shall not become union members, the union demanded that it be given formal recognition as the bargaining representative of the supervisory and clerical employees of the Rochester and Pittsburgh Coal Co., Nov. 12, 1943. But District 50 is at once both a part, and not a part, of the union as at any time best suits the union's argument. In the summer, the National Labor Relations Board dismissed the petition of the union for such recognition.

In August, strikes occurred either of members of District 50 or of members of the other districts to strengthen that district and the strikes had the more compelling effect by reason of the fact that the foremen and assistant foremen, though paid by the operator, are under the law subject to the state, and no work can proceed without their services. If the foremen strike, the mines must close down unless certificated substitutes can be found. Legally, unless the superintendent or manager has a foreman's certificate, he can not operate the mines.

Where such strikes occurred, the Government promptly took charge of the mines. Some strikes were called where no supervisors belonged to the union. Quite naturally, the supervisors were aggrieved because they were among those whose wages had been "frozen" at pre-war levels. However, one company, the Boone County Coal Corporation, having received permission to grant such increases, the W.L.B. finally granted the right to all coal operators to extend voluntarily to supervisors the provisions of the mining agreement, if all the privileges were granted in each case. Monthly salaries were to be adjusted to accord with the daily minimum (basic) mine-worker wage adjustment; the $50 vacation allowance was to be made and $40 was to be paid as allowances for portal-to-portal travel time between April 1 and Nov. 3. However, the several seizures of the Federal Government may result in suits; the Pershing Fuel Co. and No. 4 Coal Co., in Iowa, are seeking damage payments for losses sustained during such seizure.

PORTAL-TO-PORTAL ISSUE

Throughout the year the Jewell Ridge Coal Corporation continued to assail the portal-to-portal decision made under the Fair Labor Standards Act, obtaining, as against the U.M.W.A., Jan. 25, a favorable decision from Judge A. D. Barksdale of the Federal District Court, Lynchburg, Va. On March 28, however, the United States Supreme Court by a 7-to-2 decision upheld the decisions of two lower courts that portal-to-portal payments should be granted in the iron mines, and, Oct. 6, the Fourth U. S. Circuit Court of Appeals ruled that travel time is work time and Jewell Ridge must pay. This controversy was carried Dec. 2 to the Supreme Court.

THE COAL SUPPLY SITUATION

Throughout the year, a well-grounded fear of a coal shortage hounded the Solid Fuels Administration for War. At the year's close that fear had lessened somewhat but is still present as stocks are low, and a new contract has to be negotiated. Consumption has exceeded output. Much coal production has come from shallow strippings opened by railroad and road contractors and others. Their advent into coal production has not drawn on the inadequate mining population, and so has been a definite gain to the industry.

Much of this strip coal, however, has come from outcrops and often is not of the highest calorific value nor does it have the physical strength of deeper coal. In most cases, it has not been possible economically to clean it, either at all or with adequate precision. Naturally, only companies and persons in great need of coal and no broad latitude of choice, will buy such shallow strip coal, so, when the season cut the demand for coal, these concerns and people decided to buy the better fuel, and left these sources with less or no demand.

For a while, therefore, the market failed to keep wholly in pace with production, and stocks were used up which later were difficult to replenish. The SFAW tried its best to meet this situation by appeals to patriotism and by explaining that later in the year stock replenishment might be impossible.

DISTRIBUTION PROBLEM

On Jan. 27, certain producers in District 8 were directed to ship specified proportions of lump and double-screened output to areas of critical shortage in the Southeast. Certain other producers were directed to withhold a part of their domestic-size tonnage for emergency direction to the same area. Early in the year, the shipment of anthracite west of the Ohio-Pennsylvania line was prohibited, but Feb. 5 this order was restricted to half the normal flow during February and March so as to provide for those who were unable to use substitute fuels. The Army was requested to substitute bituminous coal for anthracite where possible. Provisions were made to deliver additional quantities of coal to New York and Philadelphia for critical needs.

Effective April 1, no retailer was permitted to receive more than 90 per cent of his 1942-1943 coal-year anthracite tonnage, as adjusted, however, to reflect changes in fuel needs in his locality. Producers and wholesalers who had tonnage left after allocating 90 per cent of the adjusted-base year's tonnage to their regular customers had to make such excess available for shipment to customers of other producers and wholesalers who could not supply the full 90 per cent.

In communities wholly dependent on Southern Appalachian mines for house-heating coal, domestic consumers were allowed to receive up to 90 per cent of their normal supply under an order of the SFAW. After Aug. 1, retail dealers in those communities had to be supplied before coal could be shipped to retailers in communities where alternative coals were available. However, war-vital coke and by-product plants and the Great Lakes docks had priority over all retailers in regard to Southern Appalachian coals.

To increase tonnage, anthracite mines were directed to work Sundays in February with payment of double time to their employees, the Office of Price Administration granting 40¢ a ton increase for the same period. Though not a pronounced success, the extra day for this short period increased output.

Warning industrial users that, if they did not stock coal, they would be found short in the winter, Secretary Ickes, on Mar. 17, practically suspended the prohibition against the stockpiling of bituminous coal in Indiana, Illinois, and Kentucky because the demand for coal began to decline. He further gave assurance that, in Appalachian districts, restrictions on the stockpiling of coal would be relaxed, May 1, where possible.

A.F.L. REJECTION OF U.M.W.A.

John L. Lewis failed to have his union readmitted to the American Federation of Labor at the Miami (Fla.) meeting, of the latter, Jan. 24, because he wanted District 50 to be permitted to enter with his original districts. The AFL would receive the UMWA only if it was constituted as in 1936. Lewis wanted the chemical workers, where product was derived from coal or coke and the farm workers who used power from coal to be admitted with the miners proper but, on May 5, the Executive Council, AFL, reaffirming willingness to accept the UMWA with jurisdiction of only miners, voted 9 to 4 against a recognition of the union unless it sloughed off District 50.

BITUMINOUS MINE EMPLOYEES

In January, 1943, there were 437,000 employees in bituminous mines and 82,000 in anthracite mines, whereas in January, 1944, there were 392,000 in the first and 73,000 in the second group of mines but, on July 31, the 90-day deferment to critical men in the coal industry between 22 and 25 years of age, granted by the Selective Service came to an end.

BITUMINOUS LEGISLATION DEFERRED

In mid-April, eight almost identical national bituminous coal bills were introduced in the House of Representatives to take the place of the Guffey Coal Act of 1937, which expired in 1943. Support of these bills was immediately announced by the U.M.W.A. and the Coal Producers' Committee, representing 1,700 operators and 73 per cent of the nation's commercial tonnage.

It was felt by some, however, that, if the coal companies could be assured of a fair price based on cost, they would be likely to grant more wages to the miners when the next contract had to be negotiated. So Nov. 24, after the Dingell bill had been introduced, the Ways and Means Committee of the House voted 15 to 9 not to take up coal legislation in the short time remaining before the new Congress took the floor.

FINING OF ANTHRACITE PRODUCERS

Twenty-nine anthracite-producing companies and 26 of their officials pleaded *nolle contendere* when about to go on trial, May 2, in the Federal court, New York City, charged with conspiracy to fix anthracite prices and, on July 26, Judge John C. Knox, imposed fines aggregating $61,000 on 28 anthracite producers, but the court, in pronouncing judgment, expressed doubt as to the moral culpability of the defendants.

SAFETY IN MINES

Mines are safer working places than at the close of the first decade of the century; 5.35 men were killed per million tons mined in 1911 and only 1.90 in the year just passed, according to estimates made by the U. S. Bureau of Mines. The ratio for 1943 was 2.23. The pressure for tonnage and the rise in the age of the men employed has not affected the record adversely as might have been expected. Outstanding among the disasters in 1944 were the death of 66 men by carbon-monoxide poisoning from a mine fire which broke out July 5 in the Powhatan mine of the Powhatan Mining Co., near Bellaire, O. and the death of 16 men trying to extinguish a fire, Mar. 25, in the Katherine No. 4 mine, Katherine Coal Co. Lumberport, W. Va.

RESEARCH

Research took several strides forward in 1943. Early in the year, Bituminous Coal Research, an affiliation of the National Coal Association, met with manufacturers of pulverized-coal equipment to discuss a program at Battelle Memorial Institute for fundamental research into pulverization of coal and the use of the product when pulverized. A committee representing manufacturers was named to assist in formulating a program.

On Feb. 12, State Senator R. W. Miller, chairman of the Illinois Coal Products Commission, announced that an experimental plant to cost $35,000 is to be constructed to determine whether the Ludwig Kern type of plant or the C. W. McKinney plant should be built to produce smokeless fuel from high-volatile coal.

In the late spring, H. N. Eavenson, president, Bituminous Coal Research, declared pledges exceeding $2,000,000 had been received from the coal industry, coal-carrying railroads and allied industries. In consequence, a research program would be undertaken.

Testimony was heard, April 26, by a House committee on a request for a Federal appropriation of $150,000 for anthracite studies and experiments on (1) improvement of mining methods, (2) protection of mines against flooding, (3) use of fine non-commercial sizes, and (4) extinction of mine fires. The subcommittee, while in general accord, would take no action without a definite program from U. S. Bureau of Mines.

An Office of Synthetic Liquid Fuels was established in the Fuels and Explosives Branch of the U. S. Bureau of Mines to guide the five-year program of research and development authorized by Congress to provide oil and gasoline from sources other than natural petroleum, but a reduction in the annual appropriation from $5,000,000 to $3,000,000 put a severe check on this program which authorized the Bureau to make contractual obligations up to $30,000,000.

A $20,000 contract to conduct experiments in making a smokeless fuel from Illinois coals was announced, Oct. 11, to have been let by the Illinois State Coal Products Commission to the Institute of Gas Technology, Chicago. An oven will be constructed to test (1) the Otto coking method, (2) a fluidization system of the IGT, and (3) the McKinney process.

A research program to ascertain how roof-fall accidents can be made less frequent has been instituted at Lehigh University by the General Reinsurance Corporation with the Anthracite Institute collaborating.

EXPERIMENTS AND TESTS

A stove to burn bituminous coal and to consume its own smoke was given a preview, July 14, by the Bituminous Coal Institute. It was stated that it will sell for less than $100, will reduce fuel use a third, hold fire for nearly a week, provide heat for 50 hours on one stoking, store 100 lb. of coal and will hold a fire for 72 hours with 75 lb. of coal.

A process of briquetting by R. G. MacPherson, Framingham, Mass., is under test by the U. S. Bureau of Mines and the National Inventors' Council. Wetted with low-temperature tar, the mass is churned and fed through compacting rollers much as wood pulp in a paper mill. The resulting carbon ribbon then passes through a continuous low-temperature coking oven at controlled speed. Anthracite dust is used with 20 per cent of bituminous fines.

"WHITE GLOVE" PACKAGED FUEL

At the close of 1944, the Defense Plant Corporation financed the erection of a factory for the manufacture of "white glove" packaged fuel—3-in. cubes made from 80 per cent anthracite fines and 20 per cent bituminous fines held together by an asphalt binder and to be sold six in a package of 7½ lbs. The plant will have an annual capacity of 150,000 tons of which 120,000 will be anthracite. Two small plants are to be erected in Utah to test the Coal-Logs method of low-temperature carbonization, one of 50-tons-per-day capacity to make primary tar oils and Coal-Logs and the other of 100 lb. per hour to produce metallurgical coke in addition to the foregoing products.

ANTHRATUBE HEATING

Anthracite Industries, Inc., an anthracite producers' research organization, on Aug. 16, exhibited a hollow tube (Anthratube) which may be of 6 or 8 in. diameter and about 18 in. long. The anthracite is fed into the tube by automatic means and the coal burns in the center of the tube, the ash being discharged at the other end. Water or air circulated around the hot part of the tube in a small compact jacket carries the heat through the house as in present-day heating. A unit adapted to the average-size home can be inclosed to form a 2 x 2 x 3 ft. furnace and will cost much less than present equipment for the same purpose. This type of furnace has been designated a "Heat Jeep."

OTHER TESTS

Overfire jets of steam have been used for some time to increase efficiency of boiler furnaces and to reduce smoke without, however, any general approval. Battelle Memorial Institute for BCR has tested these devices and determined the best practice and now the overfire jet seems well established as a smoke-abatement practice. Many of the railroads are greatly interested.

Tests of Alaskan coals for hydrogenation purposes have been made by the U. S. Bureau of Mines with diverse results depending on the variant metamorphic maturity ("rank") of the several coals. Yields of tar and light oil vary from 9.7 to 40.9 gal. per ton. The Eska mine coal is the most desirable coal of any in Alaska.

The Bureau also has developed a method of collecting a sample of dust from air by a pump through a special filter paper, which is placed later in ethyl alcohol and shaken vigorously. The dust leaves the paper readily. When collected in water the bacteria may multiply or the dust dissolve if the examination of the sample is delayed.

A new method of detecting carbon monoxide in air down to less than .01 per cent has been developed by the Bureau, based on the formation of molybdenum blue when the gas reacts with palladium-chloride phosphomolybdic acid and acetone. Activity of carbides of iron, cobalt, and nickel as catalysts in the formation of oil from methane and hydrogen by the Fisher-Tropsch process also has been determined by the Bureau.

New mines, partly to replace exhausted properties, are being opened. Some, however, are being developed on extensions of established railroads. Such mines usually draw full or part-time labor from the nearby localities in which they operate and so, at times like the present, add to the annual tonnage. Stripping has been active. This also brings into the coal industry new labor and new facilities with an increase in tonnage per man-day, and this aided in meeting the almost frantic demand for coal throughout the year.

NON-FERROUS METALS

By Walter Renton Ingalls
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PRODUCTION AND PRICES

During 1944 the use of the non-ferrous metals continued to be restricted in the main to military munitioning, but in the second semester there were some small releases of copper for ordinary consumption, especially for purposes of upkeep, and magnesium was released in toto. In December, 1943, the publication of statistics of production and consumption became permitted in the United States (except as to certain of the minor minerals and metals), but public knowledge as to the import and export statistics continued to be prohibited. Silence continued in respect of all statistics of the British Empire except as to Canada.

The price for copper in 1943 was maintained at 12c. per lb., delivered in Connecticut; lead, 6.5c. per lb., New York; and Prime Western spelter, 8.25c., St. Louis, all being unchanged from 1942-43. These were ceiling prices set by the Office of Price Administration, and large quantities of the metals were delivered at those prices. For substantial quantities of each of them premiums were paid in order to realize production that otherwise could not have been had because of high costs. For aluminum, the price continued at 15c., following a reduction from 17c. in 1941; for magnesium, 20.5c.; for nickel, 35c.; and for tin 52c., New York.

During 1944 the price of electrolytic copper in Great Britain remained unchanged at £62 (11.14c.); of lead at £25 (4.48c.); of zinc, good ordinary brands, at £26 10s. (4.76c.). These were the maximum prices, per long ton, officially fixed by British Ministry of Supply, all prices being for delivery to buyer's premises. The American equivalent in cents per pound is computed on the basis of sterling at $4.025.

All through 1942 and 1943 the base price of tin in England was retained at £275 per ton (49.41c. per pound) or about 2.60c. per pound below the American maximum, but at the beginning of 1944 it was lifted to £300 per ton (53.906c. per pound) or 1.90c. per pound above the unchanged American price.

As the war with Germany has been drawing toward its end, with the expectation that we shall as quickly as possible reconvert from a military to a civilian economy, there has been much concern in respect of the large military reserves of the metals with which we shall end. Such concern was eased by Congressional enactment Sept. 19, 1944, withholding stocks from liquidation for a period of 15 months and to such extent as the Army and Navy should pronounce needful for national security.

Production of copper, lead, and zinc in Mexico was curtailed by a general strike of miners, millmen and smelters, which began about June 10 and extended in some instances as long as 45 days. Settlement involved an increase in wages, full payment for wages during the strike, and substantial contributions to certain social benefits.

In the following reviews all references to tons will mean 2,000 lb., except in respect of tin for which the ton is 2,240 lb.

COPPER

The American supply of refined copper in 1944 will be about 1,750,000 tons *vs.* 1,802,000 tons in 1943. In addition thereto there will be a supply of about 420,000 tons of copper in ingot brass *vs.* 392,000 in 1943. The production of ingot brass is derived mainly from the retreatment of old material, but in 1944 some refined copper was put into this production, wherefore there is a duplication in the statistics, perhaps to the extent of 30,000 tons at least.

The production of refined copper was derived from the mines of the United States, plus imports chiefly from Canada, Chile, Peru, and Mexico, plus some scrap received for refining. The production of the mines of the United States during the first semester of 1944 was only a little less than half of the output of 1,088,000 tons in 1943. During the second semester there was a sharp drop to the rate of about 75,000 tons per month, with the outlook that the year's total will not be any more than 850,000 tons. The explanation is to be found in shortage of labor and overstrain otherwise.

As in 1943 the largest channel of copper consumption was for the production of ammunition. There was some easing in the manufacture of small-arm ammunition, but increased requirement for artillery ammunition, and during the last quarter General Eisenhower called for more of the small-arm.

World's production of copper has not been definitely known since 1939 when it was recorded by the American Bureau of Metal Statistics as having been 2,400,000 tons of 2,000 lb. The same authority estimated about 2,900,000 tons for 1941, about 3,050,000 tons for 1942, and about 3,070,000 tons for 1943. In 1944 the output in Canada, Chile, and Peru was at about the same rate as in 1943. It is indicated that the world's total was less in 1944 than in 1943. These estimates are offered in the absence of definite knowledge of production in Russia, in Japan, and in Germany and its satellites. In the third quarter of 1943 Germany lost access to the production of Yugoslavia (about 50,000 tons per annum at pre-war rate), and of Finland (about 20,000 tons per annum).

The stock of copper in the United States has become very large. That in the hands of smelters, refiners, and manufacturers is necessarily large at all times by virtue of the prolonged time in transit and in processing. Such stocks in the aggregate do not appear to be in excess of a normal figure. The Metals Reserve Company at the end of August reported holding a stock of 303,000 tons of refined copper, an increase of 87,000 tons from Jan. 1, 1944, besides which it had a considerable quantity of copper in ore. An unknown factor is the quantity of copper and brass recovered from the proving grounds and battlefields that is already beginning to come back.

Great Britain has obtained its copper supply from Canada, Northern Rhodesia, and the Belgian Congo. Its contracts with the Canadian producers expired at the end of 1944, and with the African producers will expire about the middle of 1945. No arrangements in respect of these supplies have as yet been settled. Early in 1944 the Rhodesian output was ordered to be reduced in view of the accumulation of stocks. In the latter part of 1944 the refined copper in possession of the British Government was supposed to have accumulated to as much as 300,000 tons.

LEAD

Production of lead by mines in the United States was about 260,000 tons in the first half of 1944, but in the second half there was a sharp contraction in the monthly rate, resulting in an outlook that the production for the year will be not more than 450,000 tons *vs.* 492,000 tons in 1943. As in the instance of copper the explanation is shortage of labor and inability otherwise to maintain production at maximum intensity.

Shipments *ex* primary refineries during 1943 accounted for about 50 per cent of the total shipments into consumption, and for about 55 per cent in 1944. The difference between these figures and 100 per cent is explained by shipments *ex* stocks of imported refined lead and shipments *ex* secondary refineries, meaning those that treat nothing but scrap. Refined lead was imported chiefly from Mexico and Australia. In this accounting no distinction is made between soft and hard lead, with recognition that the latter contains some antimony which is reckoned as lead.

Data for the first six months of 1944 in comparison with the corresponding period for 1943 indicate that the total consumption of lead in 1944, including derivation from domestic ore, scrap and junk, and from imported material, will be a little less than the grand total of 1,100,000 tons in 1943. In the first six months deliveries *ex* refineries, etc. were larger than in the corresponding period of 1943 under some heads and less under others. There were increases for storage batteries, for white lead, and for lead tetraethyl (gasoline). There were decreases for cable, for ammunition, and for sheet, pipe, etc. These six uses accounted for about 75 per cent of the total in 1943, the largest single use being for storage batteries, and under that head chiefly for replacement batteries. In the second semester of 1944 there was no indication of alteration in consumption conditions.

It will be observed that the conditions of warfare have produced less dislocation in the channels of lead consumption than in those of copper and zinc.

The total stock of lead in the hands of the Government and industry, Jan. 1, 1944 were 375,000 tons, whereof about 93,000 tons of refined lead was at the primary refineries and with primary manufacturers (corroders, rollers, extruders, etc.), leaving about 280,000 tons for the government stockpile of imported lead. At the end of October this had been reduced to about 107,000 tons. Stocks of refiners had been reduced about 10,000 tons. The prolonged strike of labor in Mexico about the middle of 1944 reduced supplies from that country.

Save for the zinc mines of New Jersey and Tennessee, which produce ore lead-free, and the lead mines of southeastern Missouri which yield galena with but little association of blende, and a few exceptions of less importance, the domestic supplies of lead and zinc are derived from the same ores. The economic conditions governing their production, to which reference will be made hereinafter under the head of zinc, are therefore similar.

ZINC

The production of zinc as spelter in the first half of 1944 was 490,000 tons, and as content of oxide, leaded zinc, lithopone, and zinc dust (blue powder) about 75,000 tons, giving a grand total of about 565,000 tons. In order to supply this there was 382,000 tons of zinc in the production of domestic ore, 24,000 tons from the retreatment of scrap, etc., and the remainder from ore imported from Canada, Newfoundland, Mexico, South America, Australia, and elsewhere. Even before the end of the first semester a contraction in the production of the mines of the United States was in evidence, and it is certain that the total production in 1944, either of ore or of spelter, will not be twice as much as the production in the first semester, during which period the rate was maintained at about what it was in 1943. The decline beginning about the middle of 1944 is ascribable to the same causes contributing to the same trend in copper and lead production.

Even so, the production of spelter, or slab zinc, was in excess of requirement. The stock at metallurgical works, primary and secondary, was 175,500 tons at the beginning of 1944 and 245,000 tons at the end of September, besides which there was a large stock of zinc in concentrates, which amounted to 352,000 tons at the beginning of 1944. The increase in stock of spelter during 1944 may have reflected the conversion of some ore stock into metal.

Of the domestic consumption of spelter the larger part was for making ammunition brass, as it was in 1943, cartridge brass having 30 per cent zinc, and gilding metal (for bullet jackets) 10 per cent. The use of zinc for coating iron and steel, commonly called galvanizing, was curtailed, while some uses, *e.g.*, of die cast zinc and rolled zinc for most civilian purposes was prohibited.

Not for many years has there been

any new discovery of zinc ore in the United States and in the meanwhile all of this country's mines are in the process of being depleted and some have been exhausted. The Tri-State district which has been the mainstay is definitely waning. Production all around since 1941 has been supported by stiff price premiums to high-cost mines. Production also has been fortified by the extraction of zinc from the slags of lead smelters and by the further recovery of zinc from dumps of old retort residues. There is a clear outlook that after the war the United States will continue to be an importer of zinc.

TIN

The domestic production of tin in 1943 was 20,727 long tons. In the first half of 1944 it was 14,500 tons, with the rate increasing to about 2,500 tons per month in the second half, wherefore the total for 1944 will be about 30,000 tons. This has been derived in the Longhorn smeltery from ore imported chiefly from Bolivia together with considerable supplies from the Belgian Congo and the French Cameroons. Although the Bolivian ores are difficult of smelting, owing to impurities, it is reported that 90 per cent of the Longhorn production meets the specification of at least 99.8 per cent tin and not more than 0.04 per cent antimony.

The Longhorn smeltery is a plant financed by the Defense Plant Corporation at a cost of upward of $6,000,000, and operated by the Tin Processing Company, using methods developed at Arnhem in Holland.

At the beginning of 1942 this country had in stock 140,000 tons of pig tin and 33,000 tons of tin in ore, with which, plus new production and some imports of pig tin, to supply a domestic consumption of about 50,000 tons per annum, domestic consumption having been reduced from a prior rate of about 100,000 tons by virtue of curtailment of civilian consumption and by economies in use otherwise, especially by making lower grades of tinplate and of solder. The effort to augment tin supply by reclaiming old cans has not added much, the recovery from such scrap having been only 1,800 tons in 1943, with the probability that it will not be so much in 1944.

Although this country has no tin mines and has heretofore derived a large part of its supply from the Orient, the deprivation of such supply by Japanese conquest has not produced any physical discomfort in the American war effort. At the middle of 1944 we still had a stock of 63,000 tons of pig tin plus 40,000 tons of tin in ore.

In 1943 the consumption of tin for tinplate was reduced to about 22,000 long tons *vs.* a pre-war rate of about 40,000 long tons, which was partly ascribable to less tinplate being made, the total in 1943 having been only 1,929,000 long tons. The production in 1944 may be about the same. The economy through the use of electroplate has not been as large as expected, the proportion of electroplate in 1944, with the whole plant in use, having been only 25 per cent of the total production. Corrosion resistance of electroplate has been found not so good as that of the heavier hot-dip coatings, and for food packages the cans must be lacquered. After electroplating, the tin is "reflowed" by some method of heating in order to produce a mirror finish.

For the tin in ore received from Bolivia we have been paying the producers 60c. per pound, delivered at Chilean ports, less smelting charges. However, this relatively high price has failed to stimulate production in Bolivia. These few comments elucidate nothing in respect of the unfavorable economic conditions and unhappy social conditions existing in Bolivia.

NICKEL

Apart from Canada, New Caledonia has been the only nickel producing area of any moment, and its pre-war production was not more than 8 per cent of the Canadian. The production of nickel in Canada in 1943 was 144,000 tons. The monthly statistics so far of record indicate that the production in 1944 will be about 5 per cent less.

By the terms of the armistice between Russia and Finland, Sept. 19, 1944, the nickel mines at Petsamo in the northern part of Finland, which were being developed by the International Nickel Company, passed to Russia. It was announced by that company, Oct. 20, that the Soviet Government had agreed to pay to it for these mines and their developments $20,000,000 in United States currency in equal instalments spread over six years.

ALUMINUM

At the end of 1943 the United States had been provided with an aluminum ingot producing capacity, partly privately owned and partly government-owned, aggregating 1,182,000 tons. An actual rate of production of about 94,000 tons per month was attained in the fourth quarter of 1943. The total domestic production of 920,000 tons in 1943 was supplemented by importation of 214,000 tons from Canada. This led to the accumulation of a stock of virgin aluminum in this country aggregating about 500,000 tons, not including a large stock at aircraft plants and not including any stock of secondary, or reclaimed, aluminum. The chief requirement for aluminum has been for the manufacture of airplanes. The weight of 86,000 airplanes produced in 1943 was 333,500 tons, not including the weight of engines and landing gear. It was clear, therefore, that aluminum had already been overproduced in 1943, although at the end of the year some government-owned plants that had been completed had not been put in operation.

During 1944 the production of airplanes in terms of poundage fell short of the production in 1943, and in order to check further overproduction several of the government-owned aluminum plants were closed, including that at Maspeth, Long Island, N. Y., which was the largest of them. At mid-year the monthly rate of production had been thus reduced to about 67,000 tons.

The commercial part of the aluminum industry has been giving much attention to expanding post-war uses of aluminum, with the outlook that they will occur in the manufacture of articles, such as vehicles for transportation, in which saving of weight will be a prime consideration.

MAGNESIUM

At the end of 1943 magnesium producing capacity, mostly government-owned, aggregating 293,000 tons, had been built in the United States. Actual production in 1943 was 185,000 tons. As in the instance of aluminum, it was already clear that plant capacity for magnesium, which is also essentially a military munitioning metal, had been overbuilt, wherefore a production averaging nearly 21,000 tons per month was cut down to about 15,000 tons per month at the middle of the year by closing government-owned plants. The superfluity of magnesium supply was also revealed in the abolition by the War Production Board of all restrictions upon industrial uses. Private producers faced the outlook with courage, expecting that new and important industrial uses will be developed for magnesium alloys which possess attractive properties. Relatively little magnesium is used unalloyed. About the end of November it was announced by WPB that magnesium production in practically all of the government-owned plants would cease prior to Jan. 1, 1945.

XII. MINERAL INDUSTRIES

PETROLEUM

By Robert E. Allen
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WAR AND OIL—EUROPE

As the Second World War roared into its fourth year of unprecedented destruction, the place and scope of petroleum in modern warfare became more painfully clear to combatants and civilians alike. Countless petroleum products in vast amounts powered, fueled, and lubricated the vast array of mechanized weapons that made D Day possible on June 6, 1944, and made our invasion of Europe the success that it was. Earlier invasions of Africa, Sicily, and Italy had forecast the success of the massive landing in Normandy, but before that fateful operation could be attempted, the most stupendous concentration of ships, planes, and self-propelled vehicles of war had to be made, and for every one of these weapons enough oil to fuel and lubricate them through a long campaign had to be accumulated and protected.

The huge accumulation of petroleum products in anticipation of the full scale invasion of Europe had its effect on the supply of civilian oil, particularly in the Atlantic States, where the early months of 1944, witnessed sudden and severe dislocations of petroleum supplies and transportation facilities. The continuance of these emergencies into the winter of 1944-45 is ample proof that great as our supply of petroleum continues to be, it is not great enough to keep two great wars going simultaneously and at the same time meet all the requirements of even a drastically restricted civilian economy. Consequently there were and still are, frequent areas of gasoline shortage and of deficient fuel oil supplies, and it now seems likely that there will be continuing deficits in the oil supply of many American communities until peace comes.

Two of the thousands of remarks and accounts of oil in war that were made during the year are worthy of notice here. Early in the year, in a radio address, William R. Boyd, president of the American Petroleum Institute and chairman of the Petroleum Industry War Council, said: "The Allies may have floated to victory on a wave of oil in World War I, but in this infinitely greater World War II, we are flying to victory on the wings of petroleum." Since then, "flying to victory on the wings of petroleum" has become a slogan and a war-cry in the air corps and the petroleum industry alike. After out-running all its supplies, including its ample oil stocks, General Patton's plunging Third Army, after its drive across France, finally stalled in sight of the German border after exhausting everything it had. Anxiously awaiting additional supplies of gasoline to power and lubricate his tanks, jeeps, and mobile artillery, the General was so vexed at the arrival of a truckload of rations that he is reported to have shouted: "Hell, they send us food, when they know we can fight without food but not without oil."

As the curtain for 1945 goes up, the United States and the United Nations are grateful that, despite actual demands that exceeded the most fantastic early estimates, the supply of petroleum and its products has not failed nor been found wanting. While the citation of astronomical figures detailing the use of gasoline by our flying, rolling, and floating fleets over, on, and around Europe is both inspiring and convincing, the important thing is that our Army and our Navy have always had the oil.

OIL AND WAR—THE PACIFIC

The beginning of 1945 finds great United States armies, navies, and airfleets fighting two great wars at once half-a-world apart. Although paying a heavy price in carrying the war to enemies so remote, it must be remembered that as yet our own homeland has been virtually untouched by war itself. The one exception so far was the innocuous shelling of oil facilities near Goleta, Calif., early in the war by a Japanese submarine, probably commanded by an officer, who, as the peacetime skipper of a Japanese tanker, had formerly loaded oil destined for war use from those same facilities.

War on land, on sea, and in the air, as it is now being waged, requires quantities of oil beyond all human comprehension, but as the tempo increases in the Pacific still heavier demands will come. A great new base 3,000 miles advanced from the last one simply can not be established nor function without enormous new supplies of the four petroleum products —gasoline, diesel oil, fuel oil, and lubricants—that our mechanized forces need to keep them fighting.

Even to a layman, oil in this war has already written new chapters in military science. Warriors and weapons, protected and propelled by oil, have demonstrated that an overseas enemy nation with a long coastline to protect, can be invaded by an overwhelming concentrated attack at one point if air and sea supremacy are held by the invader. Likewise, airpower has proved to be that terrible new weapon with which wars perhaps can not be won alone, but without which a war is surely lost. Finally, our great carrier forces in the Pacific have demonstrated the effective striking power of a number of mobile marine airstrips when concentrated on any fixed airfield on land. Airfields can not mobilize and congregate to gang on their victim, but a fleet of aircraft carriers can and does, and oil makes it all possible.

WAR AND OIL—THE UNITED STATES

By straining its sinews the petroleum industry again broke all crude oil production records during the third United States year of the war in 1944, producing about 1,678,000,000 barrels, or nearly 71,000,000,000 gallons during the year. An additional 100,000,000 barrels of the lighter oils, including natural gasolines, naphthas, and condensates were produced, bringing the total United States production up to 1,778,000,000 barrels, or nearly 75,000,000,000 gallons. Known reserves of petroleum in the United States were estimated at 20,000,000,000 barrels as of Jan. 1, 1944, or 11.2 times the subsequent production of the year. This ratio does not mean that we had only 11 years supply of oil remaining in the country at that time, as will be later explained.

These staggering figures are impressive but incomprehensible to those to whom a million still seems incalculable. However, when reduced to understandable size, the figures are still impressive. For example, enough petroleum was produced to give every man, woman, and child in the country a quota of 610 gallons. Few of us received more than a fraction of that amount, and the reason we didn't was that a large part of our share was going overseas to fight the war on the enemies' home grounds. The 2,250 gallons produced for each average family approximates the amount of oil required to heat an eight-room house in the North Atlantic states, so it's just as well that oil heating and car ownership do not prevail jointly throughout the United States, for our present supply of petroleum would be insufficient for peace, to say nothing of war.

Compared with some of the other essential products of the United States, petroleum presents an interesting position. For every pound of petroleum produced in this country in 1944 there was produced about one-third of a pound of corn, less than one ounce of meat of all kinds, about one-tenth of a pound of wheat, about one segment of an orange, a quarter of an apple, one-third of a pound of steel, two and one-half pounds of coal, and about enough tobacco for a small cigar.

The 505,000,000,000 pounds of crude oil produced in 1944 brought the producers about $2,200,000,000, exclusive of subsidies, or an average of about four-tenths of a cent a pound. Corn and wheat, for example, would bring about 25 cents a bushel at this rate, and this explains why grain alcohols can not compete with petroleum at present prices in the production of motor fuel or synthetic rubber.

With the average member of the armed forces requiring nearly four times as much oil as the average civilian, and with petroleum products still amounting to nearly two thirds of all the tonnage leaving our shores, it may be readily seen that oil-wise this is an expensive war, costly not only in money, but in the accelerated depletion of our great natural resources that has made this an oil war.

Comparatively, and on a unit basis, the finished petroleum products cost relatively little as war commodities go. The super oil that fuels our B-29's on their long missions costs the Government less than the ordinary gasoline that the civilian automobile uses. A battleship, in a few minutes action, uses shells costing enough to buy fuel oil for a long cruise, and even a jeep costs more than the total quantity of gasoline it will ever use. Thus, oil in war is as cheap as it is vital.

TECHNOLOGICAL PROGRESS

What might be called the "first wave" of petroleum war plant construction was completed in 1944. All the new and rebuilt plants that had been so feverishly ordered, planned and expedited during the bustle and haste of 1942, for the production of such war essentials as toluene, 100-octane aviation gasoline, butadiene, synthetic rubber, aviation lubricants, and a score of lesser known but equally vital petroleum products, were finally on stream and turning out their necessities in a swelling flood that frequently exceeded rated capacity. Our production of aviation gasoline and toluene alone exceeded 22,000,000 gallons a day in 1944. These purely war products amounted to more than one-fourth of the record breaking 742,000,000 barrels of all motor fuels produced during the year.

As the year closed, however, it became apparent that even this stupendous quantity might be insufficient to maintain the amazing acceleration of the war in the Pacific and continue a full scale drive against Germany. So, in order to provide an assured margin of safety and to augment the production of super-fuel, 100-octane plus gasoline for the great gasoline-gulping B-29's, a second, but lesser, wave of plant construction was ordered late in 1944.

Meantime, quality of the war products was being steadily improved. Hundred-octane gasoline yielded gradually to a super-fuel that packs 15 per cent more power, and the end is not yet. New products with strange names and secret uses are being compounded from petroleum chemicals. A few years ago, tetra ethyl lead was one of the very few useful compounds of a metal and a hydrocarbon; now there are dozens, and some of these incorporate some of the rare and expensive elements. Other elements, such as boron and silicon, are being substituted for the carbon atom nucleus of the hydrocarbon molecule, and strange new compounds, with some amazing properties, are being tested.

Although new petroleum products are appearing faster than military uses can be found for them, there is, nevertheless, a definite trend toward their adoption as fast as equipment can be designed to use them. Airplane engine design and airplane fuel improvement are progressing neck and neck, and it is competently predicted that the powerful airplane engines of the future will operate on an already discovered synthetic fuel at cylinder pressures twice those prevailing today. Although motor car manufacturers stand ready and willing to give the public what it wants in an automobile, it is obvious that there is little point in designing automotive engines to use improved fuels as long as the overall efficiency of the automobile is kept so low by public demand for the type of performance that makes for inefficiency.

Jet propulsion and direpeller planes may still be considered in their infancy despite the headlines gained by their introduction and increasing use during 1944. Jet propulsion requires new types of petroleum fuel that cut into the civilian supply of kerosene, just as aviation gasoline diminishes the supply of automotive fuel.

Technological progress during 1944 was by no means confined to product improvement. Drilling progress took a well in California to a new record depth of 16,246 feet, well over three miles. Pipeline progress of the most amazing kind was made in various war theaters where hundreds of miles of temporary and permanent pipelines were laid to transport petroleum products to the front, thus freeing trucks and highways for the transportation of troops and materiel. In the field of pure research, further studies of the role of bacteria in the origin and production of oil indicate that some remarkable additional discoveries in this field are in prospect.

OIL PRODUCTION HIGHLIGHTS ON THE HOME FRONT

The completion of the first program of war plant construction by the petroleum industry has already been mentioned. These 122 war product plants and 18 new pipelines had already proved themselves truly indispensable by mid-year. The vast flood of war products and their transportation to points of consumption constituted an oil epic alone, but the less glamorous, though no less essential, maintenance of crude oil and natural gas production by the unsung heroes of the oilfields, made all other oil achievement possible.

Despite a continued scarcity of materials and equipment, and a steadily shrinking supply of manpower, the petroleum industry somehow managed to drill nearly 25,000 new wells in the United States during 1944, an increase of over 5,000 from the number drilled in 1943. Without these new wells, it would have been entirely impossible to have met the terrific demand for the crude oil needed to make the required war products. Despite the record-breaking production of 1,778,000,000 barrels of new petroleum it was necessary to withdraw crude oil from storage to the extent that our year-end stocks of 229,000,000 barrels of crude oil were at the lowest level since 1921 and amounted to less than a 60 days' supply at current rates of demand.

During the year Alabama made its debut as an oil producing state, the twenty-sixth, thereby proving every Gulf Coast state to be an oil producer. Intensive exploration planned for Alabama and Florida during 1945 should result in an increased production from these last two entrants into the class. Continued exploratory activity in Georgia may soon add that state to the ranks of oil producers, while an active search for oil in other Atlantic Coast states seemed largely concentrated in Delaware, Maryland, and North Carolina. Principal new fields found during the year seemed to be in Colorado, Wyoming, Mississippi, and Louisiana, although the largest volume of new oil discovered in 1944 was probably again in Texas.

The United States was not alone in its all-out petroleum production effort in 1944. Canada, Colombia, Peru, and Venezuela were called upon to do their utmost and Venezuela production particularly reached new levels, but Texas remained as the cornerstone of oil supply of the United Nations, producing about three-fourths as much oil as all the rest of the world outside the United States. California, producing nearly half as much as Texas, and comparably with Venezuela, has done nobly in oiling the Pacific war which not until 1944 exceeded her capacity to supply.

PETROLEUM TRANSPORTATION

In the field of petroleum transportation it became evident again in late 1944 that despite new pipelines, new tankers, and the continued use of every available tank car, tank truck, and barge, we still did not have enough transportation to take our oil where we wanted it as fast as we wanted it. The completion of another "Big Inch" pipeline for natural gas from Corpus Christi, Tex. to Cornwell, W. Va., was probably the construction accomplishment of the year in the field of petroleum transportation, unless the building of enough new tankers to fuel the Pacific war could be so called. Important oil pipe lines in Wyoming, Texas, and Oklahoma, were also completed, and as the year ended applications were pending for the construction of large capacity oil and gas pipelines from Texas to California. Tank car shipments of both crude oil and products from Texas to California are already being made in large quantities, for despite the huge drafts California is making upon her surface and underground reserves of oil, the total obtainable is still inadequate to meet the demands of the far-flung battle lines in the Pacific and the war production line of the Pacific Coast. Tank cars diverted to the Texas-California haul have aggravated an already acute Texas-New York transportation problem with scanty supplies of gasoline and domestic fuel oil as the result.

PROPOSED U. S.-BRITISH OIL TREATY

Three new actions and a continuing one featured the United States Government's interest in the petroleum industry during 1944. Of international importance was the drafting of a proposed U. S.-British treaty providing in effect for the joint control or cartelization of the movement of United States and British oil in the commerce of the world. The regulation of movement in commerce would likewise tend to regulate the production of oil by either nation or its component parts in those amounts greater than needed for domestic consumption. In its original form as drafted and approved by cabinet level officials of both nations and sent to the United States Senate for ratification as a treaty, the agreement met with so much suspicion and protest on the part of a very considerable segment of the United States petroleum industry that it was recalled from the Senate by the President for consultation with the industry. After extensive study and deliberation by its National Oil Policy Committee, the Petroleum Industry War Council expressed certain objections to, and recommended specific changes in, the proposed treaty, with the result that a degree of industry-government understanding was reached that will permit the early re-submission of the document to the Senate for ratification on the ground that its implementation, along with several other agreements covering other commodities, is essential to the overall policy-program now being shaped to assure the economic recovery and the peace and prosperity of the world. Members of the petroleum industry have reserved the right to present their arguments on the subject when the treaty is being considered by the Senate.

CRUDE OIL PRODUCTION SUBSIDY

Next in importance among governmental actions affecting the oil industry was the granting of a crude oil production subsidy to the smaller oil wells of the country, commonly known as strippers. These subsidy payments authorized by the Office of Price Administration and the Director of Economic Stabilization, vary from 15 to 75 cents a barrel, depending on the average well production of the particular pool, and were ordered as a substitute for the general crude oil price advance sought by the industry since the beginning of the war. Because of its implications most producers accepted it as a "half-a-loaf measure," and promptly renewed their efforts to obtain an outright price increase instead of a tax-paid subsidy. Since the subsidy was granted as a war measure to foster full production from all the little wells of the country, its post-war future is quite uncertain if the decline in demand obviates the immediate necessity for maximum production regardless of price. It is this uncertainty that led to the recent proposal of oil subsidies as a conservation measure analogous to the various agricultural conservation and production limitation programs, although as yet it is not clear whether the proposed subsidies would be paid for not producing oil or for producing limited amounts. Many consuming industries that do not use oil are also interested in the subject because the taxes which they must pay go to buy oil which they never get or receive any benefit from. As a result, the oil industry is again pressing its claim for an outright unrestricted price increase that will stimulate the exploration and discovery that is so necessary to keep this country a self-sufficient producer of petroleum.

OIL AND THE HIGHWAY PROGRAM

Third on the list of governmental actions important to the oil industry was the projection of the new federal-aid highway program which will extend $450,000,000 aid to states in building and maintaining a great national highway system. Although more and better highways encourage gasoline consumption, there was considerable doubt in the mind of the industry as to whether the depressing prospect of permanently maintaining and possibly increasing the present temporary Federal gasoline tax might not offset the economic or social benefits deriving from a highway construction program.

The continuing governmental action mentioned is, of course, the maintenance of the unique government-industry partnership directing the war effort of the American petroleum industry and composed jointly of the Petroleum Administration for War and the Petroleum Industry War Council. This combination, by its fine teamwork, has directed and aided the industry in its remarkable and outstanding success in oiling the two great wars which now engage us.

PETROLEUM RESERVES

The debate between those who are apprehensive about the future of our oil supply and those who are complacent on the subject continued with renewed vigor during 1944, and partially quoted statements from both sides made the headlines from time to time and added to the nation's mental confusion on this vital topic. When carefully analyzed there is little fundamental difference in the two viewpoints, and that difference is largely one of spatial concept. Summarized, this is the gist of the argument. One side says with variations: "There will be plenty of oil for generations yet unborn" when what they really mean and usually say is: "The United States will have oil for a long time to come if we have free access to the reserves of other nations as our own decline, and if we utilize to the utmost our vast continental reserves of tar sand, coal and oil shale." The theme of the other side is: "We are running out of oil and only have enough oil in sight to meet in full our demands of the next two or three years" when what is really meant is: "If we don't find enough new reserves and can't import oil from elsewhere or extract it from tar sands, coal, or oil shale, we will be short of oil."

It will be seen that both of these interpreted concepts are in complete agreement that eventually we shall have to rely on sources of petroleum other than our own wells for much of our mobile liquid energy. When is eventually? No one knows. It may be 10 years, or it may be 30, depending entirely upon what we discover and what we consume in the interim. For some years our new oil discoveries, while maintaining a fairly uniform aggregate volume, have been conforming to the law of diminishing returns. The operation of this law, in conjunction with the cumulative decline of increasing numbers of small wells, will ultimately bring the day when we can not consistently find enough new oil each year to replace that which we produce and consume. Before that now unknown day comes, it is obvious that our national economy and our national security will compel us to secure supplementary supplies of natural or synthetic petroleum. Some evidences of Federal concern on this subject may be seen in the proposed oil treaty and the 1944 congressional authorization of a great synthetic fuel research program. In the immediate future years, the American petroleum industry can be depended upon to find oil at home and abroad in direct proportion to the inducements offered, chief of which are a fair return on the investment and on the risk involved, and freedom from unnecessary regulation and restriction.

As regards 1944, it now appears that, owing to the tremendous withdrawals and the lesser magnitude of new discoveries, our known reserves at the end of the year must be slightly less than the 20,064,000 barrels estimated at the beginning of the year. Although the figure of 20,000,000,000 barrels is used to denote preliminarily our estimated reserves as of January, 1945, it must be emphasized that the limits of error in the estimate would probably be sufficient to absorb either the new reserves discovered or the production of the past year.

One thing is very plain; the ability of our wells to produce is declining at an accelerated rate, because of excessive withdrawals. The faster wells are produced, the faster they decline, and this not only means higher production costs and reduced ultimate recoveries, but it also makes it urgent that more and more flush fields be found and developed to offset both the consumption of reserves and the accelerated decline. These things have a grave and unmistakable effect upon our course to victory and to peace.

WORLD PRODUCTION OF CRUDE OIL

(In barrels of 42 U. S. gallons)

Year	United States	Rest of World	Total World
1934	908,065,000	613,409,000	1,521,474,000
1935	996,596,000	657,892,000	1,654,488,000
1936	1,099,687,000	691,853,000	1,791,540,000
1937	1,279,160,000	760,071,000	2,039,231,000
1938	1,214,355,000	773,686,000	1,988,041,000
1939	1,264,962,000	820,482,000	2,085,444,000
1940	1,353,214,000	788,732,000	2,141,946,000
1941	1,402,228,000	822,654,000*	2,224,882,000*
1942	1,386,645,000	784,645,000*	2,191,290,000*
1943	1,503,176,000	769,913,000*	2,273,089,000*
1944	1,678,000,000*	943,470,000*	2,621,470,000*

* Preliminary figure subject to revision.

Petroleum production of the United States and Venezuela in 1944 soared to new highs and estimated world production reached a figure not likely to be materially changed by post-war revision of the production estimates of oil-producing countries still occupied or dominated by the enemy. United States production alone amounted to 64 per cent of the world total, though our percentage of the known petroleum reserves of the world is only about 40 per cent.

Significant in this record of United States petroleum production is the fact that, during the 11-year period 1934-1944, we produced 89 per cent as much crude oil as we did in the preceding 75 years. Worthy of note also, as representing a distinct production trend, is greater proportionate increase in the production of natural gasoline and related products than in the production of crude oil. This is the natural result of the discovery of a relatively larger proportion of lighter petroleum, as deeper drilling becomes increasingly necessary in the fields of California and the Gulf Coast. The importance of natural gasoline has been greatly enhanced by the recovery from it of large quantities of the critical components of 100-octane gasoline, synthetic rubber, and other necessary war chemicals. Natural gas continues to assume a steadily increasing stature as a source of heat and power, although the primary function of the gas produced from oil wells continues to be the production of oil. The 35,597,000,000,000 cubic feet of natural gas produced in the last ten years may be considered equivalent, on a weight and energy basis to about 5,300,000,000 barrels of liquid petroleum.

UNITED STATES PETROLEUM PRODUCTION

1934–1944

	Crude Oil	Natural Gasoline, etc.	Total Petroleum	Natural Gas
	Thousand Barrels	Thousand Barrels#	Thousand Barrels	Million Cu. Ft.
1934	908,065	39,556	947,621	2,307,955
1935	996,596	39,333	1,035,929	2,498,005
1936	1,099,687	42,770	1,142,457	2,644,835
1937	1,279,160	49,177	1,328,337	3,032,410
1938	1,214,355	51,347	1,265,702	3,048,200
1939	1,264,962	51,650	1,316,612	3,333,500
1940	1,353,214	55,700	1,408,914	3,694,100
1941	1,402,228	80,855	1,483,083	4,103,500
1942	1,386,645	83,322	1,469,967	4,275,000*
1943	1,503,176	88,179	1,591,355	4,310,000*
1944	1,678,000*	99,888*	1,777,888	4,350,000*
11 year Total	14,086,088	681,777	14,767,865	35,597,505
Total Prior	15,690,379	461,174	16,151,553	34,650,500
1859–1944 Total	29,776,467	1,142,951	30,919,418	70,247,005

* Preliminary figures subject to revision.

# Natural gasoline, etc., includes related products such as liquefied petroleum gases, butane, propane, naphthas, and other liquid hydrocarbons recovered from natural gas.

On the face of it, the petroleum production with respect to the known oil reserves of the United States as compared with the rest of the world looks completely inverted, for with one-third of the known world reserves we produced two-thirds of the world's oil in 1943. Such an apparent improvidence is actually the result of the continued upward production trend in the United States without a corresponding discovery of new sources of oil and, on the other hand, the rest of the world has had some sensational oil discoveries in the last decade, particularly in the region surrounding the Persian Gulf, but the war and lack of time to develop producing, refining, and distributing systems have prevented the production of volumes of crude oil proportionate to the new reserves.

PETROLEUM IN TWO WARS

(1918–1944)

	1918	1944	Per Cent Increase
Oil Producing States	18	26	44.5
Deepest Well	7,579 ft.	16,246 ft.	114.3
Producing Oil Wells	195,000	411,500	112.8
Producing Gas Wells	40,300	60,000	49.0
Crude Oil Production (barrels)	356,000,000	1,678,000,000	371.0
Natural Gasoline Production (barrels)	6,725,000	99,888,000	1,385.0
Total Liquid Petroleum (barrels)	362,725,000	1,777,888,000	391.0
Natural Gas Production (mcf.) (from oil and gas wells)	945,000,000	4,350,000,000	361.0
Known Crude Oil Reserves (barrels)	6,500,000,000	20,000,000,000	208.0
Oil Reserve/Production Ratio	18.25	11.9	
Known Natural Gas Reserves (mcf.) (Natural Gas Fields only)	15,000,000,000	113,000,000,000	652.0
Gas Reserve/Production Ratio	15.90	26.1	
Motor Fuel Produced (barrels)	85,000,000	742,400,000	774.0

XII. MINERAL INDUSTRIES

THE WORLD'S PETROLEUM ACCOUNT

(January, 1945)

Continent and Country	Estimated Reserves Remaining Jan. 1945		1944 Production	
	Million Barrels	Per Cent of Total	Million Barrels[7]	Per Cent of Total
North America:[1]				
Canada[1]	160		9.9	
Mexico[2]	610		35.6	
United States	20,000		1,678.4	
Other North America	5		0.2	
Total[1]	20,775	33.5	1,724.1	65.5
South America:				
Argentina	240		24.0	
Bolivia	50		0.7	
Brazil	10		0.1	
Colombia	540		23.8	
Ecuador	30		2.5	
Peru	220		20.8	
Trinidad	350		24.5	
Venezuela	6,400		267.5	
Total	7,840	12.7	363.9	13.8
Europe:				
Albania	20		0.8	
Austria	80		9.8	
Czechoslovakia	8		0.2	
France	6		0.6	
Germany (Old Reich)	85		5.6	
Great Britain	2		0.7	
Hungary	95		5.3	
Italy	1		0.1	
Poland	40		2.5	
Rumania	440		25.2	
U.S.S.R.[3]	10,400		280.0	
Other Europe	3		0.1	
Total	11,180	18.1	330.9	12.6
Asia:				
Bahrein	170		8.8	
British India	45		3.0	
Burma	100		1.0	
China	20		0.9	
Iran	8,800		103.0	
Iraq	4,500		33.2	
Japan[4]	45		3.8	
Netherland Indies[5]	1,200		40.3	
Sakhalin	10		4.9	
Saudi Arabia[6]	7,000		6.1	
Total	21,890	35.5	205.0	7.8
Africa:				
Egypt	90		8.9	
Other Africa	5		0.1	
Total	95	0.2	9.0	0.3

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[1] Includes Central America and Cuba.
[2] Exclusive of Athabaska Tar Sands.
[3] U.S.S.R. production in Asia, excepting Sakhalin, included in Europe.
[4] Includes Taiwan and Karafuto.
[5] Includes Brunei and Sarawak.
[6] Includes Kuwait and Qatar.
[7] Preliminary, subject to revision.

THE WORLD'S PETROLEUM ACCOUNT (Continued)

Continent and Country	Estimated Reserves Remaining Jan. 1945		1944 Production	
	Million Barrels	Per Cent of Total	Million Barrels[7]	Per Cent of Total
Australia	?		0.1	
World Total	61,780	100.0	2,633.0	100.0
Total Outside U. S.	41,780	67.8	954.6	36.2

WELLS COMPLETED IN THE UNITED STATES

Year	Oil#	Gas	Dry	Total
1934	12,520	1,368	4,309	18,197
1935	15,108	1,401	4,911	21,420
1936	18,523	2,070	5,297	25,890
1937	23,839	2,676	6,560	33,075
1938	19,286	2,066	6,141	27,493
1939	19,045	2,198	6,474	27,717
1940	21,072	2,352	6,617	30,041
1941	21,918	3,007	7,128	32,053
1942	12,252	2,068	5,504	19,824
1943	11,264	1,782	6,385	19,431
1944*	15,550	2,600	6,800	24,950

* Preliminary, subject to revision.

# Includes injection wells (1,547 in 1943; 2,300 in 1944).

Although the shortage of steel and other materials as well as manpower continued to limit drilling operations in 1944, 28 per cent more wells were drilled in 1944 than in 1943 but only 78 per cent of the number drilled in 1941. A combination of circumstances led to the selective drilling of the more productive locations of better economic possibilities, with the result that the new production developed was a considerably higher percentage of the possible maximum than the number of completed wells would indicate.

CRUDE OIL IN STORAGE AT END OF YEAR

(In barrels of 42 gallons)

Year	
1934	337,254,000
1935	314,855,000
1936	288,579,000
1937	306,826,000
1938	274,958,000
1939	239,978,000
1940	264,709,000
1941	247,499,000
1942	234,889,000
1943	241,762,000
1944*	222,236,000

* Preliminary, subject to revision.

The above-ground stocks of crude oil have in general shown a steady downward trend since 1930 when a peak figure of 428,445,000 barrels of crude oil was held in storage as the result of large flush production during the two previous years.

Jan. 1, 1945 crude oil stocks are the lowest since 1921 and demand is the highest in history.

CRUDE OIL PRICES

(Per barrel of 36 deg. A.P.I. gravity Oklahoma-Kansas oil)

Year	High	Low
1934	$1.00	$1.00
1935	1.00	1.00
1936	1.10	1.00
1937	1.22	1.10
1938	1.22	1.02
1939	1.02	1.02
1940	1.02	1.02
1941	1.17	1.02
1942	1.17	1.17
1943	1.17	1.17
1944	1.17*	1.17*

* Exclusive of differential and variable subsidy payments effective in 1944.

CAPACITY OF U. S. REFINERIES

(Operating, shut-down, and building, as of Jan. 1, 1945)

Year	Capacity (barrels per day)
1935	4,072,400
1936	4,163,946
1937	4,376,081
1938	4,373,701
1939	4,650,805
1940	4,721,213
1941	4,860,194
1942	4,999,000
1943	5,035,000
1944*	5,150,000

* Preliminary, subject to revision.

Actual refinery runs of crude oil averaged 4,520,000 barrels daily during the entire year of 1944. The tremendous expansion and improvement of refinery facilities since 1941 has been required by the urgent and unprecedented demand for petroleum war products of which 100-octane gasoline is only one of many. This complete modernization of nearly all of the larger refineries of the United States will represent an investment of nearly $900,000,000 when completed, more than 75 per cent of which has been borne by the refining companies without governmental assistance.

REFINERY RUNS OF CRUDE OIL

(In barrels of 42 gallons)

Year	
1934	895,636,000
1935	965,790,000
1936	1,068,570,000
1937	1,183,440,000
1938	1,165,015,000
1939	1,237,840,000
1940	1,294,162,000
1941	1,409,192,000
1942	1,334,103,000
1943	1,429,738,000
1944*	1,660,000,000

* Preliminary, subject to revision.

Refinery runs of crude oil eclipsed all previous records in 1944 in the successful effort of the oil industry to meet every military requirement for petroleum products. Refinery operations as the year ended indicate that he volume of crude oil run to stills in 1945 will soar to new heights as will the production of military gasolines, navy fuels, and synthetic rubber.

MOTOR FUEL PRODUCED IN U. S.

(In barrels of 42 gallons)

Year	
1934	423,801,000
1935	468,021,000
1936	516,266,000
1937	571,727,000
1938	569,162,000
1939	611,043,000
1940	616,695,000
1941	701,294,000
1942	608,900,000
1943	610,533,000
1944*	742,400,000

* Preliminary, subject to revision.

The production of motor fuel in the United States in 1944 also exceeded all previous records both in quantity and quality and a much larger percentage of the amount produced went to supply the demands of war, leaving the amount remaining available for civilian use doubly reduced in quantity as well as in quality, for the high grade military gasolines require the "cream" of the gasoline in order to assure the vital superior performance. More than 25 per cent of the 1944 production above listed was aviation gasoline and toluene.

GAS AND FUEL OIL PRODUCED IN U. S. REFINERIES

(In barrels of 42 gallons)

Year	Gas Oil and Distillates	Residual Fuel Oil	Total Fuel Oil
1934	94,972,000	240,381,000	335,353,000
1935	100,235,000	259,826,000	360,061,000
1936	125,906,000	287,968,000	413,874,000
1937	146,706,000	312,064,000	458,770,000
1938	151,774,000	294,890,000	446,664,000
1939	161,746,000	305,944,000	467,690,000
1940	183,304,000	316,221,000	499,525,000
1941	189,177,000	342,367,000	531,544,000
1942	196,714,000	358,901,000	555,615,000
1943	211,516,000	417,306,000	628,822,000
1944*	242,000,000	460,000,000	702,000,000

* Preliminary, subject to revision.

The production of all fuel oils in 1944 showed a substantial increase. The fuel oil needs for our Navy and Merchant Marine increased directly with the launching from our shipyards and the distance to our battlefronts. However, the shortage of civilian fuels on the Atlantic Seaboard resulted not so much from the great military demands as from the shortage of transportation facilities which, although largely remedied by the end of 1943 with the completion of a new pipe line system and the continued use of as many as 80,000 oil tank cars, again began to be deficient and inadequate late in 1944.

Various subsidies, reimbursements, special charges, etc. now so confuse the economic picture that the above table means little except for the indicative statistics.

INDEX OF WHOLESALE PRICES

(1926—100)

(U. S. Bureau of Labor Statistics)

Year	Petroleum Products	All Commodities
1936	57.3	80.8
1937	60.5	86.3
1938	55.9	78.6
1939	52.2	77.1
1940	50.0	78.6
1941	57.0	87.3
1942	59.8	98.8
1943	62.5	103.1
1944*	63.9	103.8

* Preliminary, subject to revision.

ESTIMATED ANNUAL COST OF MOTOR FUEL AND TAXES PER CONSUMER

(based on average number of motor vehicles in use each year)

Year	Annual Consumption Per Automobile (gallons)	Average Fuel Cost	Average Fuel Tax	Total Cost to Consumer
1927	493	$90.27	$13.85	$104.12
1929	551	98.74	19.29	118.03
1931	583	75.79	23.32	99.11
1933	560	69.50	30.30	99.80
1935	601	81.44	31.79	113.23
1937	634	92.50	34.24	126.74
1939	643	85.58	34.98	120.56
1940	653	83.26	36.96	120.22
1941	642	85.39	38.07	123.46
1942	537	77.65	32.06	109.71
1943	403	58.68	24.06	82.74
1944	412	60.23	24.60	84.83

NOTE: Although the average automobile in peace time uses only about as much gasoline in a year as one of our new fighter planes uses on one mission, it is evident that the war time shortage of gasoline with its attendant rationing resulted in a 38.3% decline in average automotive gasoline consumption from 1940 to 1943. From 1941 to 1944 automobile registrations declined about 17% and this decline will continue until new cars are again made. Significant also is the fact that taxes equal to 41% of the fuel cost are included in the total consumer cost. Judged by its taxes gasoline is one of our greatest luxuries but judged by its use it is one of our greatest necessities.

MOTOR FUEL PRICES, TAXES, AND COSTS

Year	Average Retail Price	State and Federal Taxes	Average Total Cost Per Gallon to Consumer
1920	$.2974	$.0009	$.2983
1925	.2009	.0211	.2220
1929	.1792	.0350	.2142
1933	.1241	.0541	.1782
1936	.1410	.0536	.1945
1937	.1458	.0540	.1998
1938	.1407	.0544	.1951
1939	.1331	.0544	.1875
1940	.1275	.0566	.1841
1941	.1330	.0593	.1923
1942	.1446	.0597	.2043
1943	.1456	.0597	.2053
1944	.1462	.0597	.2059

Since 1940 the average cost of gasoline to the consumer has been trending gradually upward as the result of more expensive transportation and distribution costs. Transportation costs have been higher because of the great volume of crude oil amounting to more than 1,200,000,000 barrels that have been moved by tank car rather than by the low-cost tankers which were one of the first great casualties of the war. Distribution costs to civilians have trended higher because of the reduced quantities available for distribution to civilians without proportionate reductions in fixed overall costs.

PETROLEUM TAXES

Year	Total Taxes
1934	$1,046,149,675
1935	1,121,936,698
1936	1,183,147,498
1937	1,315,487,798
1938	1,286,114,473
1939	1,354,166,333
1940	1,523,693,000
1941	1,807,146,000
1942	1,786,338,797
1943	1,686,133,000
1944*	1,824,000,000

* Preliminary figure.

Despite the effect of rationing in reducing civilian consumption of gasoline, and the collection of taxes therefrom, increased corporate taxes to some degree offset what would otherwise have been a material decline in taxes collected from the petroleum industry and its customers, and as a result petroleum still remains as one of the largest sources of U. S. tax revenues.

XII. MINERAL INDUSTRIES

PERIODICAL PUBLICATIONS

American Gas Journal
53 Park Place, New York City.
American Mineralogist
450 Ahnaip St., Menasha, Wis.
Chemical and Metallurgical Engineering
330 West 42nd Street, New York City.
Coal Age
330 West 42nd Street, New York City.
Engineering and Mining Journal
330 West 42nd Street, New York City.
Fueloil Journal
232 Madison Ave., New York City.
Iron Age
100 East 42nd Street, New York City.
Metal Finishing
11 W. 42nd St., New York City.
Metal Progress
7301 Euclid Ave., Cleveland, O.
Metals and Alloys
330 West 42nd Street, New York City.
Mining and Metallurgy
29 West 39th Street, New York City.
National Petroleum News
1213 West Third Street, Cleveland, O.
Oil and Gas Journal
211 South Cheyenne Street, Tulsa, Okla.
Oil Weekly
3301 Buffalo Drive, Houston, Tex.
Petroleum Engineer
701 Allen Building, Dallas, Tex.
Petroleum World
412 West Sixth St., Los Angeles, Calif.
Steel
Penton Publishing Co., Cleveland, O.
Steel Facts
350 Fifth Ave., New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSN. OF PETROLEUM GEOLOGISTS, Box 979, Tulsa, Okla.
AMERICAN GAS ASSN., 420 Lexington Ave., New York City.
AMERICAN INSTITUTE OF MINING & METALLURGICAL ENGINEERS, 29 W. 39th St., New York City.
AMERICAN IRON AND STEEL INSTITUTE, 350 Fifth Ave., New York City.
AMERICAN MINING CONGRESS, 841 Munsey Bldg., Washington, D. C.
AMERICAN PETROLEUM INDUSTRIES COMMITTEE, 50 W. 50th St., New York City.
AMERICAN PETROLEUM INSTITUTE, 50 West 50th St., New York City.
AMERICAN ZINC INSTITUTE, 60 E. 42nd St., New York City.

DIVISION XIII

MANUFACTURES AND TRANSPORTATION

CONDITIONS IN MANUFACTURING

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GENERAL

If there is one thing that 1944 has taught it is that we have had to relearn, the hard way, the truism that war is never over until the last shot is fired; that fighting men, and money, alone are not sufficient to bring victory and peace; that it takes materials fashioned by manpower and machines, in the right quantities, in the right places, at the right time, to attain the goals of war in the shortest possible period. The stark truth is that, whatever the reasons, in the year just closed, American industry was torn almost hopelessly between the shadow of reconversion and the substance of war. It had mistaken the branch for the tree.

The responsibility for this phenomenon is of less moment than its results; yet, whatever the cost in life, in tears, in heartbreak, for want of a round of ammunition, a gun, a tank, the price has not come too high if the lesson has been well learned; if reconversion has once and for all, been shelved until after our enemies have been brought to book. That is the way the Army and Navy had wanted it all the while in those contradictory days of 1944.

For 1944, the index of the Board of Governors of the Federal Reserve System covering the output of our mines and factories combined, receded approximately 2 per cent from its all-time peak registered in the preceding year, confirming indications that were traced in these pages in The American Year Book, 1943. Nonetheless, the 1944 index was still some 135 per cent above the average level for the five-year peacetime period, 1935-1939. It may be, though, that the small recession recorded in 1944 is but an harbinger of a further, perhaps more drastic curtailment in industrial output. We shall see. Suffice it here to indicate that whatever the reasons, the reversal in trend that occurred in 1944 was the first since 1938.

THE PRODUCTION BACKGROUND

For background, the recent year-to-year gains over the previous year are of more than passing moment; the 1943 gain was 20 per cent; for 1942, the gain over 1941 was 23 per cent; for 1941, the increase over the previous year was 30 per cent. Of more significance for its bearing on 1945, perhaps, is the fact that only twice in the last quarter century, has the year which followed one of lowered industrial activity, however slight, been able to scale a previously established peak; the two exceptions were the years, 1925 and 1928 in the so-called lush 20's, neither of which were plagued by the problems of manpower and material shortages.

To get the proper perspective, let it be stated that the 1925 index of industrial output was but 38 per cent of the 1944 level while the 1928 index was but a scant 42 per cent of the 1944 production volume. Parenthetically, then, it is not too bold to suggest, manpower and material shortages and lowered productive efficiency considered, that for the time being at least, our industrial plant in terms of units of production has likely reached the point of diminishing returns.

For manufacturing alone, both of durable and non-durable goods, the 1944 production record showed a shrinkage of almost 3 per cent from the peak level of the previous year. Despite this sloughing off in the output of our factories, the overall index of manufacturing production was still 151 per cent above the level of the base period, 1935-1939; 18 per cent above the 1942 index; and 100 per cent higher than for our last full peacetime year, 1940.

For the so-called durable goods manufacturing industries, inclusive of such basic industries as iron and steel, lumber, machinery, nonferrous metals, stone, clay and glass products, aircraft, shipbuilding, transportation equipment, the 1944 index (1935-1939 average = 100) recorded a reading of about 352 as contrasted with 360 for 1943. Thus it will be seen that, despite a recession of about 2 per cent, the 1944 level was still some 252 per cent above the average for the base period. Further to point up how far war has gone to make the wheels of our heavy industries whir at unparalleled rates, it may be indicated that the 1944 index was 2½ times as high as that recorded for 1940. When peace has come, what will sustain the level of output to which our heavy industrial plant has been attuned by the exigencies of war? What will sustain the high level of output in the goods that are produced for quick consumption?

Non-durable goods, so-called, as with durable goods, were produced in somewhat smaller volume than in 1943; the decline amounted to almost 3½ per cent. Measured by the index (1935-1939 average = 100) non-durable goods output in 1944 was 170 as contrasted with 176 for 1943, with 115 for a year so recent as 1940. Textiles and products, leather and products, manufactured food products, meat packing, alcoholic beverages, tobacco products, paper and paper products, printing and publishing, petroleum and coal products, chemical products, rubber products, all combined, though produced in smaller aggregate volume than in 1943, were on a manufacturing schedule in 1944 that was virtually 50 per cent higher than in 1940.

MINERAL OUTPUT

Unlike the index of manufacturing output, both of durable and non-durable goods, the index of mineral production chalked up a new high record in 1944; at 141 (1935-1939 average = 100) the 1944 index compares with 132 for 1943 and 117 for 1940. Gains over 1943 in fuels more than counteracted losses in metals.

FOOD PRODUCTS

Unlike the index of non-durable goods manufacture as a whole, the index of manufactured food products registered a new high mark in 1944. At 153 for the year, the physical volume of production of manufactured foods of every description recorded a gain of about 5½ per cent over the average for the base period, 1935-1939, reflective not only of the enlarged demands of the military, but also of the broadened appetites of our civilian population and their unexampled purchasing power even in the face of rationing constrictions of wartime.

Not all manufactured foods shared in the general advance over 1943 nor to the same degree. For wheat flour, 1944 production was less than 2 per cent greater than in 1943; for manufactured dairy products as a whole the increase was not more than 3 per cent; for butter alone a loss of about 12 per cent was counteracted by gains of less than 2 per cent and about 14 per cent, respectively, in the output of cheese, and canned and dried milk. For meat packing as a whole, the 1944 output was almost 7 per cent greater than in 1943; gains in pork and lard and in beef and veal more than offset losses in lamb and mutton. Other manufactured foods as a group were produced on a level about 5½ per cent greater than in 1943; processed fruits and vegetables gained by roughly 8 per cent while confectionery sustained a decline of about 1½ per cent.

TOBACCO AND LIQUOR

The index of tobacco manufactures for 1944 covering cigars, cigarettes, and other tobacco products, suffered its first set-back in years, declining some 8 per cent from the peak level of 1943. For both cigars and cigarettes, the production losses from 1943 approximated 8 per cent; small wonder that cigars and cigarettes became ever scarcer as the year 1944 wore on.

The output of alcoholic beverages as a group hit a new high in 1944; not only did the index exceed the previous year's level, but in doing so it was also some 44 per cent higher than the average for the base period, 1935-1939. Gains occurred in malt liquors, in whisky because of the so-called manufacturing holiday during the late summer, in other distilled spirits and in rectified liquors of all descriptions. For this latter category, the increase over 1943 amounted to some 42 per cent, in large part reflective of efforts to break the tight supply conditions that existed with respect to whisky for most of the year. As a commentary on the unexampled purchasing power of our people, it may be indicated that in 1944 they spent some $7,000,000,000 on alcoholic beverages.

TEXTILES

The production of textiles and products as a group in 1944 was about 4½ per cent smaller than in 1943. It should be noted that 1943 production was itself some 2 per cent smaller than in 1942, the high-water mark for the industries involved. Cotton consumption by textile mills declined almost 10 per cent from the 1943 level and was off by virtually 16 per cent from the peak total recorded for 1942; nonetheless, the 1944 volume was still 44 per cent higher than the average for the 1935-1939 period and 20 per cent above the level of 1940. Rayon deliveries to consuming establishments in 1944 broke all previous records; the gain over 1943 alone was better than 5 per cent; while the advance over 1940, the last full prewar year, was 40 per cent.

The output of wool textiles as a group, on the other hand, sloughed further in 1944 from the peak level recorded in 1941. In registering an index of about 147 in 1944, wool textile output was about 4½ per cent lower than in 1943; about 5 per cent smaller than in 1942; and approximately 8 per cent lower than in 1941. Notwithstanding, wool textiles in 1944 were produced in a volume that was not only 47 per cent higher than the average for the base period, 1935-1939, but also 40 per cent greater than in 1940. A look at the components is in order, all of which except carpet wools, participated in the general decline from 1943.

CARPET AND APPAREL WOOLS

For carpet wools, the 1944 production was about 35 per cent greater than in 1943, but as something of a war casualty, it must be quickly added, the 1944 carpet wool production was still some 54 per cent below the five-year average for the period, 1935-1939. Apparel wools in 1944 continued the decline which set in late in 1942 with the result that production was lower than in 1943 by approximately 6 per cent. The 1944 volume, however, was about 1½ per cent greater than in 1942 and a bit more than twice the average recorded for the period, 1935-1939. Woolen and worsted yarns combined in 1944, were produced in smaller quantities than in either of the two previous years; the loss from 1943 amounted to about 6 per cent and from 1942 to about 5 per cent. For woolen yarns alone, the decline from 1943 was approximately 6½ per cent and for worsted yarns the loss from the previous year amounted to about 5½ per cent. The output of woolen and worsted cloth was lower in 1944 than in the previous year by about 6½ per cent, lower also than in 1942, by about 9 per cent; compared with the 1935-1939 base period, however, the production volume for 1944 was 62 per cent higher.

LEATHER AND LEATHER PRODUCTS

The production of leather and its products in 1944 was virtually unchanged from the level in the previous year but was off by some 7 per cent from the total of 1941, the peak year. Notwithstanding this decline, the group index was still about 14 per cent above the average for the period 1935-1939. Leather tanning in 1944, likewise, was practically unchanged from the level for the preceding year. Shoe output, too, in 1944 remained on the 1943 level, but was below the 1941 peak output by something more than 7 per cent.

PETROLEUM AND COAL PRODUCTS

The output of refined petroleum products and of coke manufactures, combined, scored a new high record in 1944. The gain over the previous year amounted to upwards of 30 per cent and was 145 per cent over the average for the period 1935-1939. For refined petroleum products as a group, the 1944 production volume was some 36 per cent greater than in the previous peak year, 1943, and slightly more than 2½ times the total for the average year in the 1935-1939 period. All major refined products, *i.e.*, gasoline, fuel oil, lubricating oil, even kerosene, participated in the general increase over 1943.

Coke production, by-product and beehive combined, increased in 1944 by about 3 per cent to a new high level which was about 72 per cent above that average for the period, 1935-1939. By-product coke alone accounted for the increase over 1943; beehive coke production receded by almost 10 per cent but, here, the 1944 total was still virtually 4½ times as great as the annual average for the years, 1935-1939.

PAPER AND PAPER PRODUCTS

The output of paper and paper products as a group showed a fractional gain over 1943, but failed, despite heroic measures to increase production, to scale the level of output registered in 1942 or for that matter the peak output of 1941. Notwithstanding, the 1944 production total was about 40 per cent greater than the yearly average for the period, 1935-1939. Wood pulp alone scored a gain of about 3 per cent over the production volume of the previous year, and, though the 1944 total was some 54 per cent greater than the annual average during the base period, it fell short of the 1942 peak by about 11½ per cent.

Production of all classes of paper combined was slightly lower than in 1943, continuing the annual downtrend which started in 1942. Though the 1944 output total was 33 per cent above the annual average production during the years, 1935-1939, it was more than 8 per cent smaller than in the peak production year, 1941. Of the major classes of paper and paper products, only paperboard was able in 1944 to show a production gain over the preceding year's total, owing in large part to the redoubled efforts expended in the waste paper salvage program. Even so, all that was accomplished was a return to the 1941 peak paperboard production level. Printing paper, wrapping paper, newsprint, tissue and absorbent paper, fine paper, to a greater or lesser extent, partook of the general decline from 1943 that characterized the industry. Worst hit, were printing paper and newsprint; for the former, the decline from 1943 amounted to about 6 per cent and from the 1941 peak to 21 per cent; for the latter, the loss from the previous year exceeded 11 per cent and from the 1941 top it was virtually 30 per cent.

CHEMICALS AND OTHER NON-DURABLE MANUFACTURES

How far miscalculation on the war's end went in 1944 may perhaps best be indicated by what happened in the key chemical industries. Chemical products as a group suffered a production relapse in 1944 of almost 16 per cent though it was still true that the production volume was some 3¼ times as great as that shown annually, averaged for the period, 1935-1939. A somewhat more critical look at the facts discloses that for so-called industrial chemicals the 1944 output was almost 11 per cent greater than in 1943; that paints of every description were produced in a volume that exceeded the 1943 output by better than 4 per cent; that soap production was some 7 per cent heavier than in 1943; and that the output of rayon broke all earlier records with an increase over the previous year of virtually 10 per cent. Where, then, did the declines occur that showed for the chemical industries as a whole a loss of 16 per cent from the 1943 combined volume of output?—explosives and ammunition.

Rubber products of every description were produced in 2 per cent larger volume than in 1943, for a new high record. In establishing this new mark the rubber manufacturing industries showed a 1944 output that was almost 135 per cent greater than the annual average in the five-year period, 1935-1939.

Printing and publishing in 1944 felt further the heavy hand of war and its restrictive measures. The volume of printing and publishing receded about 10 per cent from the previous year and was not only lower by some 26 per cent than the peak established in 1941, but for the year as a whole, was down to the average level for the 1935-1939 period.

ELECTRIC UTILITIES

In 1944, all previous production records were broken by the electric power industry. The output of power by all sources producing for public use approximated 230,000,000,000 kilowatt hours. This, which takes no account of electrical power produced by industrial plants for their own consumption or our imports of power from Canada, was an increase over 1943 of roughly 9,000,000,000 kilowatt hours or 4 per cent. Of the year's output, about 80 per cent was provided by private companies and the balance by governmentally owned facilities, both Federal and local. Of especial interest, however, is the fact that the 1944 production total shrouds the losses in load from the corresponding period of 1943 that occurred during the final four months, further emphasizing how far the economy had come to be geared to the belief that the war was all but won.

At the 1944 year-end, the installed capacity of all electric power plants, private and public, was almost 51,000,000 kilowatts, a new high level representing an increase since the outbreak of war of about 11,000,000 kilowatts.

RAILROADS, RAILROAD EQUIPMENT, AND MACHINERY

Class I railroads ended 1944 with a revenue ton-mile record never before witnessed. Though the gain over 1943 was only about 2 per cent, the volume was about 2¼ times the total shown in 1939. Passenger traffic on the rails, too, broke all earlier records. To meet, in part, the needs of this unexampled traffic, increased manufacturing releases were permitted for some railroad equipment, especially freight cars and locomotives. Notwithstanding, the output of rolling stock generally was at a relatively low ebb during 1944. The production of transportation equipment of all classes, however, inclusive of automobiles, trucks, aircraft, railroad cars, locomotives, and ships, in 1944, though lower than in 1943 by about 2½ per cent, was more than seven times the annual average for 1935-1939. The output of all classes of machinery in 1944 was fractionally lower than in 1943.

IRON AND STEEL

The index of iron and steel production in 1944 was about 1 per cent smaller than that recorded for 1943. An increase of about 1 per cent in pig iron output was too small to counteract a loss of about 2 per cent in steel production. The declining trend in steel output set in during July and for the remaining months of 1944 the monthly totals were below the corresponding figures for 1943, further evidencing the over-optimism concerning the European aspects of the war that gripped the nation during the summer and fall of 1944.

XIII. MANUFACTURES AND TRANSPORTATION

NONFERROUS METALS

The production of nonferrous metals and products receded in 1944 about 2 per cent from the peak recorded in the preceding year. Smelting and refining, including copper, lead, zinc, as well as aluminum, magnesium and tin, declined in 1944 by some 10 per cent. On the other hand, fabrication of nonferrous metal products during 1944 showed a gain over the volume of the previous year of more than 1 per cent.

MUNITIONS

The year 1944 in the munitions industries was characterized by major shifts in emphasis. Some programs were reduced, others were accelerated; nevertheless, the net result was an overall volume that was more than 10 per cent higher than the 1943 peak. Adverse developments in the progress of the war, particularly in the European theater during the final quarter of the year, were in some quarters laid to these shifts in the munitions program. Here is a question about which future historians will doubtless have much to say. Correspondingly, much ink will be spread to explain away the whys and wherefores of the declines in ammunition production, including bombs; in combat and motor vehicles; in cargo ships.

BUILDING CONSTRUCTION AND MATERIALS

New construction activity in 1944, totaling just under $4,000,000,000, was less than half as great as in 1943 and some 70 per cent below the peak recorded in 1942. To find a level as low as that shown for 1944 one must go back to the depression years of the 1930's. The results of this shrinkage on our manufacturing industries were varying. Of the so-called building material industries, perhaps the hardest hit were the cement, window glass, and plate glass industries; among the least affected, were the lumber and gypsum and plaster products industries. For lumber, fully 50 per cent of the production was utilized in the manufacture of wooden shipping containers of every description; for gypsum and plaster products the high level of purchasing power and restriction on new building have sustained their demand for use in modernization, building repairs and maintenance.

CONCLUSION

If the record of industrial accomplishment in 1944, when the stakes were so high, has proved something of a disappointment, it is a good thing; that is, if one sees in this record a preview of the turbulent economic waters and of the dangerous shoals that lie ahead, when ultimate victory and peace come, and makes plans to avoid them. We can in peacetime have 60,000,000 jobs; we can have a national income of $150,000,000,000 and more a year; we can produce 1,000,000 and more dwelling units annually, and 7,000,000 cars. We can do this and more but we will not do it unless every man, woman, and child takes up the tasks of peace more fervently than those thus far borne in war. Here is a challenge that will try the brain and brawn of America, if not in 1945, then in the years immediately ahead.

THE UNITED STATES TARIFF COMMISSION

By Oscar B. Ryder
Chairman, The United States Tariff Commission

Commissioners

Oscar B. Ryder, Chairman	E. Dana Durand
Lynn R. Edminster, Vice Chairman	George McGill
Edgar B. Brossard	George Z. Barnes

E. M. Whitcomb, Acting Secretary
New York Office—Room 513, Custom House
Samuel W. Pitts, In Charge

FUNCTIONS OF THE COMMISSION

The United States Tariff Commission is an independent nonpartisan government agency whose principal function is to ascertain facts upon the basis of which Congress may determine policies affecting the foreign trade of the United States.

The Revenue Act of 1916 provided for the establishment of the Tariff Commission and outlined the general scope of its functions. The Commission was organized six days after the United States entered the First World War and assisted in many problems directly connected with that war. It prepared extensive reports on post-war problems of foreign trade and on international commercial policies. At that time it also began work on collecting and analyzing information relating to thousands of commodity classifications covered by the tariff. This formed the basis of the Summaries of Tariff Information, which were prepared by the Commission for the use of Congress in its consideration of the Tariff Acts of 1922 and of 1930. These summaries, revised and brought up to date, have been used extensively in preparing material in connection with the trade agreements program and for the war agencies during the present war.

Tariff Acts of 1922 and 1930 continued the basic functions of the Commission, provided in the organic act, and gave additional functions. These are contained in the flexible tariff provisions, the provisions dealing with the prohibition of unfair acts in the importation of goods, and other provisions for penalizing the trade of countries discriminating against the commerce of the United States. From time to time other special provisions of law gave the Commission additional duties. Among these were Section 22 of the Agricultural Adjustment Act and the Trade Agreements Act which was enacted in 1934 for a 3-year period and extended in 1937, 1940, and 1943. The Trade Agreements Act requires that information and advice be sought from the Tariff Commission in connection with the negotiations of agreements.

When defense agencies were created within the Federal Government shortly after the beginning of the war in Europe in 1939, and later when war agencies succeeded defense agencies, the Tariff Commission cooperated by giving every possible assistance to those charged with the handling of the economic phases of the prosecution of the war.

CURRENT WORK OF THE TARIFF COMMISSION

Since the United States entered the Second World War the activities of the Tariff Commission have been largely devoted to assisting war agencies and to working directly on other assignments closely identified with the war effort. Since the middle of 1944, however, the need for aid to war agencies has decreased somewhat, thus enabling the Commission to direct increasing attention to the study of post-war foreign trade problems.

WORK IN COOPERATION WITH THE W.P.B.

Since its organization the War Production Board, one of the first of the war agencies to be concerned with production, movement, and use of commodities, has called upon the Tariff Commission for cooperation in numerous investigations and in the preparation of reports on a wide range of subjects. Some of these projects have been continuous, as for example, the New York Office of the Commission regularly supplies data which are compiled directly from invoices and other import documents. This material is in greater detail than that provided by official import statistics. Much of this invoice work is done for the Bureau of Stockpiling and Transportation of the War Production Board. For more than two years the Commission has collected for this Board statistics of domestic production of synthetic organic chemicals, and information concerning the consumption and use of certain fibers; and a monthly analysis of commercial imports of raw wool is made. The data on the chemicals are tabulated by plants and by products and are supplied to the Chemical Bureau of the War Production Board. Some of the material is released each month jointly by the Tariff Commission and the War Production Board in the Facts for Industry Series.

OFFICE OF PRICE ADMINISTRATION

Early in the war the Tariff Commission placed the facilities of its accounting staff, experienced in making cost investigations, at the service of the Office of Price Administration which has need of information on costs of production of various commodities in connection with questions regarding ceiling prices. One of the projects undertaken during 1944 was an extensive cost study of wool manufactures, including worsted fabrics, wool fabrics, and wool-knit fabrics. Another investigation now under way is a comprehensive study of the costs of cotton printcloth fabrics. This investigation is part of a larger study of cotton textiles being conducted by the Office of Price Administration in compliance with the provision of the Bankhead amendment to the Stabilization Extension Act of 1944. To comply with the amendment it is necessary that ceiling prices for each major cotton fabric be reviewed from the point of view of current costs as affected by the price of raw cotton.

WAR FOOD ADMINISTRATION

Work for the War Food Administration has consisted chiefly of cost studies; the most important of these related to products procured for Lend Lease and for military purposes and to products subject to subsidy payment. Canned meats, concentrated citrus juices, dried whole eggs, cheese, butter, and dried, condensed, and evaporated milk—commodities which are important in the buying program of the War Food Administration—were subjects of investigation during the year. Data procured by Tariff Commission accountants on the costs of producing the various grades and kinds of these foods have been used by the WFA officers in the carrying out of the food procurement program.

FOREIGN ECONOMIC ADMINISTRATION

In December 1941 the Tariff Commission formally made its facilities available to the Board of Economic Warfare (now the Foreign Economic Administration), and since that time it has collaborated closely with that agency. Among the major projects which have been completed for this agency are reports on certain Far Eastern areas; 100 separate commodity studies called Maximum Foreign Supply Surveys; and a series of confidential reports on commodities of critical or strategic importance to the enemy. Recently surveys have been completed on about 50 principal products of the Malaysian area, showing for each product its pre-war position, how that position has been affected by the war, and the probable post-war production. Another project completed in 1944 consists of a group of short reports covering production, foreign trade, and wartime activity of certain industries in the reoccupied countries of Europe, and problems relating to the rehabilitation of these industries.

WORK WITH OTHER GOVERNMENT AGENCIES

Although most of the cooperation with government agencies has been with those primarily concerned with the war, the Tariff Commission has also worked closely with other government offices. Extensive studies have been made for the Department of State in matters concerning the trade agreements program. In connection with a study being made by the Inter-American Defense Board to determine the extent to which the Western Hemisphere could become self-sufficient with respect to certain strategic or critical agricultural products, the Commission, on request, prepared a survey of the situation as it affected 11 agricultural products. The Commission is cooperating with the Bureau of the Budget in the preparation of the Standard Commodity Classification and has assisted the Bureau of the Census in organizing and reviewing the schedules for the next census.

SPECIAL WORK ON POST-WAR FOREIGN TRADE PROBLEMS

During the year the Tariff Commission turned its attention increasingly to post-war problems. In December 1943 and early in 1944 the Committee on Ways and Means of the House of Representatives and the Committee on Finance of the Senate asked the Commission to investigate the principal domestic industries which may have been affected by the war. These requests were later enlarged to include reports on the probable general foreign trade position of the United States after the war, and on changes since 1929 in the international-trade policies of foreign countries particularly as they affect the industry and trade of the United States. Work is now under way on this program. Seven reports have been issued on the changes in important United States industries, in the War Changes in Industry Series. There will be about 75 major commodities or commodity groups included in this series of reports.

Another pending request from Congress is Senate Resolution 341 which directs the Tariff Commission to report with respect to commodities which are important in the import trade, the post-war consumption, production, imports, exports, and employment under certain stated assumptions. Also before the Commission is a request from a member of the Ways and Means Committee of the House of Representatives, asking the Commission for certain information on price levels in the United States and foreign countries; for a list of imported commodities supplying 10 per cent or more of domestic consumption; and for extensive information on imports which, under present tariff treatment, have competitive advantages in the American market and those which do not.

OTHER WORK IN PROGRESS

Summaries of Commodity Information.—An important part of the basic work of the Commission consists in keeping up to date the Summaries of Commodity Information.

Study of Customs Laws.—A comprehensive study of the administrative provisions of the customs laws of the United States has been begun. The purpose is to scrutinize the entire body of custom administrative laws and procedures with a view to ascertaining which provisions have become obsolete or unduly burdensome or which need strengthening in order to carry out their objectives. The results are to be the subject of a report to Congress.

Trade Relations with Puerto Rico.—Trade relations between the United States and Puerto Rico is the subject of a study undertaken at the request of the Senate Committee on Territories and Insular Affairs. A preliminary report has already been submitted and a more comprehensive report is nearing completion. This report will deal with the economy of Puerto Rico, how it has been affected by the war, and how it would be affected by any change in the relationship between the United States and the island.

Trade Agreements.—During the past year, work in connection with trade agreements was relatively light. Much ground work has been done, however, in preparation for preliminary discussion and possible future agreements with several countries. The Vice Chairman of the Tariff Commission serves as Chairman of the Committee for Reciprocity Information. That committee is the designated government agency to receive information, requests and suggestions in writing or orally from interested persons concerning proposed agreements and those already concluded. The Committee's offices are maintained in the Tariff Commission Building, and facilities of the Commission are available to it.

Work for Interdepartmental Committees.—The Commission does an important amount of work for Interdepartmental Committees. Much of this work relates to transitional and post-war problems. Members of the Commission serve on a number of the more important of these committees and are chairmen of several of them. Among these committees are the Executive Committee on Economic Foreign Policy, the Trade Agreements Committee, the Interdepartmental Committee on Cooperation with the American Republics, the United States-Mexican Committee on International Fisheries, and the West Indian Committee. Members of the staff are also assigned to work on numerous interdepartmental committees and subcommittees.

PUBLICATIONS

Most of the reports prepared for war agencies contain confidential information and, therefore, can not be made public. During the year, however, the Commission issued the following reports: Treaties Affecting the Northeastern Fisheries, United States Consumption of Food in Terms of Fats, Proteins, Carbohydrates, and Calories, 1939-43, The Rayon Industry, Cost of Production of Wool in 1943, Production, Consumption, and Stocks of Synthetic Organic Chemicals in the United States by months, 1943 and 1944 (Monthly release), United States Production and Sales of Synthetic Organic Chemicals and Their Raw Materials, 1943, Analysis of Imports of United States Miscellaneous Crude Drugs, 1940 and 1941, Analysis of United States Imports of Miscellaneous Chemicals and Medicinal Preparations, 1940 and 1941, Trade Agreements with Iceland and with Iran (2 reports), United States Imports in 1939 Classified According to Type of Duty, and Changes in Import Duties Since 1930—Supplement.

The list of recent publications includes the War Changes in Industry Series as follows: *Raw Wool, United States Stock-Pile Wools, Industrial Alcohol, Mercury, Dehydrated Vegetables, Rubber,* and *Pottery Tableware.*

ADMINISTRATION OF THE TARIFF LAWS

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GENERAL

Despite dislocations in channels of trade and concentration of endeavor on many activities not performed in peacetime, the Customs Service during the fifth year of the Second World War experienced an expansion of its normal functions without any cessation of its wartime requirements. International traffic expanded, importations increased, and greatly augmented revenues were collected in 1944. That any expansion of operations connected with foreign trade occurred was in itself somewhat unexpected and that customs activities reached the level they did in 1944 was unusual.

CUSTOMS COLLECTIONS

The total revenues collected in 1944 by the Customs Service, including collections for other departments and Puerto Rican collections other than duties, were the largest in customs history, aggregating $727,251,316, as compared with $414,191,247 in 1943. Of these totals, $292,019,928 in 1944 and $85,019,387 in 1943 represented internal revenue taxes collected by customs officers on imported distilled and vinous liquors, an increase of 243.5 per cent.

Customs duties alone yielded $431,310,620 in 1944, an increase of 32.3 per cent over the previous year's total ($325,957,912). Most of the duties are collected each year on consumption entries and withdrawals from customs bonded warehouses, both of which classes of duties increased sharply in 1944, the increase in duties on warehouse withdrawals taking place despite a decline in the number of transactions. The largest relative increase

DUTIABLE IMPORTS FOR CONSUMPTION BY COUNTRIES

(Fiscal Years 1943 and 1944)

	Duties		Value		Percentage Duties to Values		Percentage Increase or Decrease (−) 1943–1944	
	1943	1944	1943	1944	1943	1944	Value	Duties
North America:								
Northern Area								
Canada	$ 37,339	$ 36,959	$ 237,640	$ 256,867	15.7	14.4	8.1	−1.0
Newfoundland	346	184	2,067	2,033	16.7	9.1	−1.7	−46.8
Greenland and Iceland	190	137	1,411	1,545	13.5	8.9	9.5	−27.9
Southern Area								
Mexico	15,837	22,822	58,972	80,640	26.9	28.3	36.7	44.1
Central American countries	152	366	1,448	3,103	10.5	11.8	114.3	140.8
Caribbean Area								
Cuba	46,682	108,544	160,092	270,992	29.2	40.1	69.3	132.5
Dominican Republic	396	157	1,830	1,006	21.6	15.6	−45.0	−60.4
French West Indies	186	4,520	85	2,896	218.8	156.1	3307.1	2330.1
Haiti	235	498	641	1,176	36.7	42.3	83.5	111.9
Jamaica	658	1,284	1,719	3,600	38.3	35.7	109.4	95.1
Netherlands West Indies	1,478	1,093	5,662	4,718	26.1	23.2	−16.7	−26.0
Trinidad and Tabago	169	251	612	641	27.6	39.2	4.7	48.5
Other British West Indies	167	192	813	1,088	20.5	17.6	33.8	15.0
Total North America	103,834	177,007	472,992	630,307	22.0	28.1	33.3	70.5
South America:								
Argentina	38,465	39,746	92,298	88,983	41.7	44.7	−3.6	3.3
Bolivia	196	12	581	74	33.7	16.2	−87.3	−93.9
Brazil	4,261	3,625	29,064	34,055	14.7	10.6	17.2	−14.9
British Guiana	335	192	2,078	1,236	16.1	15.5	−40.5	−42.7
Chile	4,818	4,460	8,606	7,816	56.0	57.1	−9.2	−7.4
Colombia	135	768	1,824	8,452	7.4	9.1	363.4	468.9
Ecuador	265	591	3,485	6,506	7.6	9.1	86.7	123.0
Paraguay	234	178	3,062	2,387	7.6	7.5	−22.1	−23.9
Peru	2,094	2,134	6,039	5,489	34.7	38.9	−9.1	1.9
Surinam	746	883	5,178	6,228	14.4	14.2	20.3	18.4
Uruguay	13,279	21,433	25,583	35,345	51.9	60.6	138.2	61.4
Venezuela	210	2,701	2,142	27,114	9.8	10.0	1165.8	1186.2
Total South America	65,037	76,728	179,941	223,687	36.1	34.3	24.3	18.0
Total all others	160,353	166,404	379,047	395,042	42.3	42.1	4.2	3.8
Grand Total	329,224	420,140	1,031,980	1,249,036	26.4	33.6	21.0	27.6

appeared in duties on baggage, owing partly to increased tourist travel and partly to dutiable articles brought in the baggage of the armed forces returning from overseas assignments. Duties on mail entries were very little larger than during the preceding year although the number of such entries was considerably greater, a condition owing to the greater number of free mail entries which arrived from members of the armed forces stationed abroad.

Wool continued for the fourth consecutive year as the most important source of revenue, almost one-third of the total customs receipts in 1944 being derived from importations of raw wool or manufactures thereof. Second in absolute importance and of far greater relative importance than ever before were duties on imports of alcoholic beverages which yielded better than two and one-half times more revenue during 1944 than during 1943. Sugar, which in 1940 and in many earlier years was the most important source of customs duties, dropped to third place in 1944, although duties on imports of sugar were considerably greater than during the previous year.

The upward trend in customs collections which prevailed during the last five months of the previous fiscal year continued at a less rapid rate during the first nine months of 1944, attaining a peak of $42,998,953 in March, an amount larger than for any single month since June 1937. During the last three months of the fiscal year 1944, however, collections declined sharply, the total in June 1944 ($30,163,209), being lower than for any other month in the year.

ALCOHOLIC BEVERAGES

Duties on imports of distilled liquor remained at a comparatively constant level during the first three years of the Second World War. A sharp rise in such duties took place in 1943 as the result of War Production Board Order M69, effective Oct. 8, 1942, which prohibited the use of any domestic alcohol for the production of alcoholic beverages. Since domestic stocks of alcoholic beverages were sufficient to supply the domestic market for a considerable period, imports of liquor increased only gradually during the later months of the fiscal year 1943 and the increase in the duties collected thereon amounted to only 50 per cent. The continued depletion of domestic stocks of alcoholic beverages during the fiscal year 1944, however, caused a large upsurge in imports and resulted in the greatly augmented duty collections previously mentioned. Subsequent to the end of the fiscal year, "holidays" were declared during the months of August 1944 and January 1945, which permitted a sufficient diversion of alcohol for beverage purposes to replenish the depleted stocks. It is not anticipated, therefore, that either internal revenue taxes or duties on imported liquors during the fiscal year 1945 will approach the level reached in 1944.

WAR MATERIALS

Emergency purchases by the Navy of war materials abroad have, since the Act of June 6, 1914, been permitted to enter free of duty. On May 30, 1942, by Executive Order 9177, the privilege of free entry was extended to war materials purchased abroad by the War Department, Treasury Department, Department of Agriculture, and Reconstruction Finance Corporation. Large volumes of war materials otherwise dutiable have been imported during the past two fiscal years by these governmental agencies without the assessment of duty. The scope of Executive Order 9177 was extended, in the later months of the fiscal year 1944, to include some articles not previously granted free entry. For security reasons, however, no statement of the volume or value of such importations can, as yet, be disclosed.

ANALYSIS OF WESTERN HEMISPHERE REVENUE SOURCES

The importance of the Western Hemisphere as a source of customs revenue has greatly increased since the beginning of the war. Of the total duties collected in 1939, only 22 per cent was derived from commodities imported from the North and Central American countries and only 11 per cent from imports from South America, compared with 67 per cent from goods brought from other parts of the world. In 1944, on the other hand, 42 per cent of the total duties was collected on North American goods, 18 per cent on those from South America, and only 40 per cent on goods from other regions. Put in another way, duties on products imported from North American countries increased from $69,000,000 in 1939 to $177,000,000 in 1944 or 156.5 per cent, those on South American goods from $35,000,000 in 1939 to $76,000,000 in 1944, an increase of 117.1 per cent, while duties on goods imported from other parts of the world decreased from $208,000,000 in 1939 to $167,000,000 during the past year. The war period has witnessed a transition in the nature of our trade with Mexico and South America. Prior to the war, comparatively few classes of manufactured articles were brought from these regions, most of the merchandise received from them being raw or unmanufactured. Increasing quantities of manufactured articles were introduced from Mexico and South America in 1944 and, in many cases, the quality has improved to such an extent as to compare favorably with the same or similar articles previously imported from Europe.

ENTRIES OF MERCHANDISE

After five years of successive decreases, the number of entries of merchandise increased sharply in 1944, indicating not only a greater volume of imports during the past year but also a trend toward the resumption of more nearly normal conditions of trade. Imports from Europe and the Orient prior to the Second World War were generally of packaged goods of comparatively small size and great variety. There were few bulk cargo shipments. The successive closing of these markets as the war progressed reduced the number of entries even more rapidly than it affected the amount of duties collected. The demand for war materials and the limited shipping facilities during the period of submarine activity necessitated a continuance and even a pronounced increase in importations of those commodities usually shipped in bulk and for which a single entry might cover the entire cargo of a vessel. After the submarine menace lessened and the available cargo space increased through the shipbuilding program, a considerable variety of articles similar to those previously brought from Europe and the Orient began to flow in from Western Hemisphere countries. In most instances, these have been shipped as general cargo to various consignees thus necessitating many entries for each cargo, which accounts for the pronounced increase in the number of entries of merchandise during 1944.

INTERNATIONAL TRAFFIC

Traffic through the seaports and across the land border of the United States continued to increase for the third consecutive year, the rate of acceleration being greater than for either of the years immediately preceding. A larger number of documented vessels was entered than for more than a decade, the result of the growth of the merchant fleet of the United States during the year and of the speeding up in vessel movements by reason of the operation of the Lend Lease program and the transportation of military personnel and supplies. Although there was only a small increase in the number of automobiles and passenger trains which crossed the border, many more passengers used these means of transportation than in 1943. The number of aircraft arriving from abroad, even after excluding military planes, was 50 per cent greater and the number of passengers arriving by plane, 79 per cent greater than during the previous year. Never in the 13 years since a record of international airplane traffic was first kept has there been a decline in the number of persons coming into this country by plane.

LAW ENFORCEMENT ACTIVITIES

For the third successive year, more seizures for violation of customs laws

MERCHANDISE ENTRIES

	Number of Entries		Duties Collected		Percent of Increase or Decrease (−)	
	1943	1944	1943	1944	No. of Entires	Duties
Consumption entries	315,632	389,962	$167,310,457	$228,716,830	23.5	36.7
Warehouse and rewarehouse entries	30,816	30,834	—	—	—	—
Warehouse withdrawals	163,163	111,402	149,417,688	192,644,820	−31.7	28.9
Mail entries	300,728	332,027	571,506	580,640	10.4	1.6
Baggage entries	370,322	624,375	229,662	402,775	68.6	75.4
Informal entries	227,499	264,755	903,406	1,086,413	16.4	20.3
Appraisement entries	8,626	9,962	95,336	86,519	15.5	−9.2
Increased and additional duties	—	—	6,938,492	7,051,058	—	1.6
Other	505,131	485,957	491,365	741,565	−3.8	50.9
Total	1,921,917	2,249,274	325,957,912	431,310,620	17.0	32.3

were made than for the preceding year. An increase of 80 per cent in the number of seizures of distilled liquor was owing largely to the depletion in stocks of domestic liquors resulting from the diversion during 1944 of all domestic alcohol for the production of synthetic rubber and other war purposes. Inability to secure satisfactory types of domestic alcoholic beverages resulted in an increasing number of attempts to smuggle.

LIQUOR SEIZURES

In addition to the distilled liquor seized for actual smuggling, large quantities of liquor were seized for technical violations. The heavy domestic demand for imported distilled liquor drew into the American market many foreign shippers who had not previously sent liquors to this country and were not familiar with the requirements as to the marking of liquor shipments to indicate the name of the consignee and the net contents of the container. As a result, huge seizures had to be made for noncompliance with the customs laws and regulations of the United States. In most instances, the violations were unintentional, and accrued forfeitures were remitted.

VIOLATIONS OF SHIPPING REGULATIONS

A somewhat similar situation existed in the case of the cargo of vessels seized for a violation of the law which provided that no vessel of under 30 net tons burden may bring into the United States dutiable merchandise without a special license issued by the Secretary of the Treasury, and that every vessel not exceeding 500 net tons from a foreign port with spirits, wines or other alcoholic liquors on board have a certificate issued by a United States consular officer or other authorized person for the importation of such merchandise. In most instances, these violations were owing to shipping shortages occasioned by the war, which caused persons to engage in a trade with which they were unfamiliar, and, although the seizures were actually made, the violation was not sufficiently flagrant to justify the actual forfeiture of the goods which was remitted either unconditionally or upon payment of a comparatively small sum.

NARCOTIC AND OTHER SMUGGLING

Most of the seizures made by customs officers, however, were neither those resulting from technical and unintentional violations of the law, nor those owing to inexperience. The continued endeavors of would-be narcotic smugglers, particularly along the Mexican border, to bring opium and marihuana into this country resulted in an increase in 1944 in the number of narcotic seizures, although the quantity and value of such seizures were substantially smaller than in the previous year. Merchandise seizures, exclusive of liquor, narcotics and prohibited articles, also were more numerous than in the previous year and, exclusive of the value of the cargo of vessels seized for technical violations, were of greater aggregate value. The violation which occurred most frequently as the cause of seizures of such merchandise was the failure by incoming passengers to declare all articles in their baggage which they purchased abroad. More than twice as many violations of this nature occurred in 1944 as in the previous year.

RAILROADS

By John J. Pelley
President, Association of American Railroads

GENERAL

Railroad transportation in the United States met its severest test in 1944. Traffic increases, which began shortly before the outbreak of war in Europe in 1939 and which pyramided in 1942 and 1943 following this country's entry into the war, continued on a moderate scale during the first half of 1944. Thereafter, traffic leveled off, closely paralleling the trend in industrial output.

Freight ton-miles in 1944 recorded a new all-time high for the fourth successive year. Passenger-miles hit a new peak for the third successive year. In the short space of five years, ton-miles more than doubled (2¼ times), while passenger-miles more than quadrupled (4¼ times).

WAR PROBLEMS

Because of war conditions, railroads have had to overcome many operating difficulties and problems in the war period. In the first place, their equipment supply was inadequate in terms of any prior operating standards or performance to handle the unprecedented volume of traffic offered. Nor was it possible measurably to increase the number of cars and locomotives because of the critical need for steel and other metals in war production. The problem then became one of doubling the output per car and per locomotive, making each unit do the ordinary work of two.

Second, manpower problems have plagued the industry for the past two years. More than 300,000 experienced railroad workers entered the armed forces of the nation, while many others left the industry to take jobs in other war industries. Replacement of these workers, as well as the recruitment of a large number of additional workers needed to handle the increasing war traffic load, created a problem that has grown in intensity throughout the war period.

Third, many items of materials and supplies needed in daily operations have been scarce and difficult to get, either in the quantity or quality desired. Use of substitute materials and deferment of some maintenance work have necessarily followed.

In overcoming these difficulties, and at the same time satisfactorily handling by far the greatest traffic volume in history, railroads received whole-hearted and understanding cooperation from the users of transportation. Without such cooperation, the railroads might have found the load too great to bear. The shippers and receivers of freight have loaded and unloaded cars promptly, thereby reducing the idle time of cars. They have met the minimum loading requirements prescribed by the Office of Defense Transportation in Order Nos. 1 and 18, thereby conserving cars. They have organized car efficiency committees for the purpose of encouraging and promoting the more efficient use of cars. They have supplied the railroads and the Office of Defense Transportation with accurate forecasts of car requirements in the months ahead, thereby enabling advance planning of transportation operations.

The Army and Navy departments, other government procurement agencies, the Office of Defense Transportation, the Interstate Commerce Commission, and the Railroad Retirement Board have also contributed to the transportation accomplishments of the war period.

RAILROAD EQUIPMENT

At the outbreak of the war in Europe (Sept. 1, 1939), railroads owned approximately one-fourth fewer cars and locomotives than on the same date in 1929, the year of pre-war peak freight traffic. The primary reason for the decline in railroad equipment ownership was the comparatively low level to which railroad traffic fell during that 10-year period, owing to continuing and growing inroads into rail traffic by subsidized modes of transport and to the economic depression which prevailed for the greater part of that period.

Following the opening of hostilities in Europe, and more particularly since this country entered the war, it became increasingly evident that the railroads would be looked to for the great bulk of inland transportation services. At the same time it was clear that only a limited amount of steel and other metals could be spared from war production for the construction of new cars and locomotives. It therefore became necessary to get more work out of each car and locomotive than ever before achieved.

The first step in meeting the problem was to put and to keep in serviceable condition as high a ratio of cars and locomotives as was possible. All prior records in that regard went by the board, as hitherto "irreducible" minima in unserviceable equipment ratios were practically cut in half. Prior to the war, the lowest ratio of unserviceable freight cars was between 5 and 6 per cent. It is now running between 2 and 3 per cent. Similarly, for locomotives, the unserviceable ratio never fell below 7 per cent in the pre-war period. The ratio is now ranging between 5 and 6 per cent. If it were not for manpower and materials shortages, those ratios could now be maintained at even lower levels.

The second step was to load cars and trains more heavily. The Office of Defense Transportation, through Order Nos. 1 and 18, prescribed minimum loads per car for L.C.L. and carload traffic, respectively. This resulted in increasing the average load per car by about six tons, or nearly one-fourth. Similarly, by adding more cars per train, the net load per freight train was increased more than 40 per cent.

The third step was to run cars and locomotives more miles per day, on the average. Prior to the war, peak performance in that respect was 36.6 miles per serviceable freight car per day, 105.2 miles per freight locomotive per day, and 184.2 miles per passenger locomotive per day. The 1944 performance averages per day were 52.3 miles per freight car, 123.5 miles per freight locomotive, and 222.2 miles per passenger locomotive.

Even greater advances were made in the utilization of passenger cars. The average number of passengers per car was 140 per cent greater in 1944 than in 1939, while the number per train increased 250 per cent, the result of more passengers per car and more cars per train.

Railroad equipment ownership today is still far below that of 1929, but the more efficient use of the lesser number of units enabled the railroads in 1944 to handle 65 per cent more freight ton-miles and 209 per cent more passenger-miles than in the earlier year.

MANPOWER

Similar to conditions in most, if not all, other war industries, manpower on the railroads has grown to be the number one problem. As of the end of 1944, railroads needed about 85,000 additional workers, representing a shortage of approximately 6 per cent.

Manpower needs have been particularly acute in the maintenance occupations, although more recently spot shortages in train and engine service occupations, as well as in freight handlers at terminals, have tended to delay car and train movements. As previously indicated, two of the primary factors in the successful handling of the war traffic load have been maintenance of low unserviceable equipment ratios and high mobility of equipment (average miles per day). Manpower shortages are making it increasingly difficult for the railroads to maintain essential standards in those operating factors.

Railroads have availed themselves of such avenues of relief in manpower matters as were open to them. More than 115,000 women are now employed on the railroads, many of them in unusual and unaccustomed occupations. It was not unusual during 1944 to see women working along the tracks, doing the lighter maintenance tasks; also, women are being used in shops and in yards in increasing number and to the extent of their physical capabilities.

Mexican nationals have been recruited and imported for track work. The ceiling for such workers, as agreed upon by the United States and Mexican governments, is now 50,000. These workers have been of great help during the emergency period.

Students have been used to a considerable extent for temporary work during their vacation periods, as well as members of the armed services on furlough. These groups, too, have done splendid work and have helped partially to fill the gap.

Railroads have set up training schools where prospective employees could learn the fundamentals of their work before going on the job; also, they have made manpower utilization studies which have enabled them to eliminate wasteful manpower practices.

The Railroad Retirement Board, which serves the railroad industry as an official employment agency, in the same capacity that the United States Employment Service serves other industries, has performed its functions exceptionally well. The industry is indebted to the Board's employment service for its efforts to fill railroad manpower requirements.

TRAFFIC AND EARNINGS

Approximately 1,500,000,000 tons of freight and 900,000,000 passengers were handled by the railroads in 1944. Compared with 1939, tonnage increased by two-thirds and the number of passengers doubled. In addition to the increases in number of tons and number of passengers, the average haul per ton increased one-third, while the average journey per passenger doubled.

The following table gives the significant traffic factors for 1944, 1939 and 1929.

TRAFFIC FACTORS—CLASS I RAILWAYS

	1944*	1939	1929
Tons of freight originated (000,000)	1,500	902	1,339
Average haul per ton (miles)	475	351	317
Tons carried one mile (000,000)	737,000	333,438	447,322
Average revenue per ton-mile (cents)	0.945	0.973	1.076
Number of passengers (000,000)	905	450	780
Average journey per passenger (miles)	106	50	40
Passengers carried one mile (000,000)	95,000	22,651	31,074
Average revenue per pass.-mile (cents)	1.875	1.839	2.808

* Partially estimated.

Operating revenues of railroads have followed fairly closely the trend of traffic during the war period. Effective March 18, 1942, the Interstate Commerce Commission authorized increases in freight rates, calculated to increase freight revenues by about 4½ per cent. Passenger fare increases, effective Feb. 10, 1942, of about 9 per cent were also authorized. As of May 15, 1943, the freight rate increases were suspended until the end of 1943. By subsequent orders, the suspension has been extended to the end of 1945. The passenger fare increases continue in effect. However, the railroads have voluntarily made rate reductions on many items of war freight, while members of the armed forces traveling on furlough are granted a considerable reduction in fares.

As a result of rate changes, increased hauls, and changes in traffic characteristics railroads received in 1944 one-eighth less per ton-mile and one-third less per passenger-mile than in 1929. These reductions in average unit charges since 1929 resulted in savings to the public and to the Government in 1944 of approximately $1,900,000,000. In other words, if the 1944 traffic had been carried at 1929 average charges, railroad revenues would have been greater in 1944 by that amount.

Owing to increased wage rates, higher prices paid for materials and supplies, and pyramided taxes, railroad net earnings have been at a moderate level during the war period. Comparing 1944 with 1929, operating revenues increased by $3,170,000,000. Notwithstanding this increase of 50 per cent in revenues, net railway operating income (before fixed charges) in 1944 was $150,000,000 less than in 1929, while net income after charges was nearly $250,000,000 less.

The following table shows significant income account items for 1944, 1939 and 1929.

CONDENSED INCOME ACCOUNT—CLASS I RAILWAYS

	1944* (000 000)	1939 (000 000)	1929 (000 000)
Operating revenues	$9 450	$3 995	$6 280
Operating expenses	6 300	2 918	4 506
Taxes	1 850	356	397
Net railway operating income	1 100	589	1 252
Net income	650	93	897

* Partially estimated.

WAGE RATES AND UNIT PRICES

Two general wage rate increases to railroad employees have been granted during the war period. The first of these, effective Dec. 1, 1941, in final form, increased the hourly rate of the operating group (trainmen and enginemen) by 9½ cents and that of the non-operating group by 10 cents. In addition, the non-operating group was granted vacations with pay of six, nine, and 12 days, depending on length of service. The second general wage increase, effective in final form on Dec. 27, 1943, gave the operating group an additional 9 cents per hour and the non-operating group an average of 9.4 cents per hour. In addition, the operating group was granted one week of vacation per year with pay.

As a result of these increases, the average hourly straight time rate increased from 74 cents in 1939 to 92.7 cents in 1944, an increase of about 25 per cent. Because of increased hours of work per employee, average annual earnings per employee increased from $1,887 in 1939 to $2,740 in 1944, or 45 per cent.

Unit prices paid by the railroads for fuel, materials, and supplies have increased by nearly one-third since 1939. Based on May, 1933, as 100, fuel prices stood at an index of 135.4 in June, 1939, and have since risen to an index of 184 in June, 1944, an increase of 35.9 per cent. For materials and supplies other than fuel, the increase was from an index of 125.3 to 162.5 over the same period, or 29.7 per cent.

ARMY POSSESSION AND CONTROL

Prior to final settlement of the wage controversy, a nationwide strike of railroad workers was threatened. Under authority of an executive order, the Army took possession and control of the railroads on Dec. 27, 1943, as a precautionary measure. This lasted until midnight of Jan. 18, 1944, a period of 22 days, at which time settlement of the wage dispute was consummated and Army possession and control were withdrawn. However, at no time during that 22-day period did the Army actually operate the railroads, although it was prepared to do so if the necessity arose.

FUNDED DEBT

Improved earnings during the war period permitted the railroads to reduce funded indebtedness. For the past four years, 1941-1944, such reductions, excluding equipment obligations, have been about $1,000,000,000, not including reductions incidental to reorganization. In addition, some refunding of outstanding issues has been accomplished at lowered interest rates. By these two processes, annual fixed interest charges of the railroads have been reduced approximately $45,000,000.

RECEIVERSHIPS AND TRUSTEESHIPS

At the end of 1944, 76 railroad companies, operating 51,799 miles of line, were in the hands of receivers or trustees. Six companies emerged from trusteeship during 1944. They were the Akron, Canton and Youngstown; Chicago and North Western; Minneapolis, St. Paul and Sault Ste. Marie; Missouri-Illinois; Alabama, Tennessee and Northern; Fonda, Johnstown and Gloversville. Since the close of the year 1939, the number of railways in the hands of the courts has decreased by 22, and the operated mileage of such companies has declined by 25,200.

CONCLUSION

The long pull in the conversion of industry to full wartime production reached its goal in 1944. From now to the end of the war, the primary problem will be one of maintaining production at peak levels and in line with changing war requirements.

Railroads to date have kept pace with the transportation needs of the war effort. They, too, must maintain service output at the peak and must keep their operations sufficiently flexible to meet quickly such changes as may occur.

Unlike other industries, railroads have not been retooled or rebuilt for war purposes. The facilities which they now have are largely the same as those of peacetime, with nominal additions. Requirements on those facilities have been heavy, very heavy, but the railroads have stood up under the load and will continue to do so as long as their minimum manpower and material needs are met.

As the year 1945 opened, war continued on all fronts. Much progress was made in 1944 toward ultimate victory, but it was clear as the year ended that much hard fighting lay before the Allied armies before that victory is achieved. Meanwhile, railroad transportation and other war industries can not and will not slacken their pace.

HIGHWAYS

By Thomas H. MacDonald

Commissioner of Public Roads, Federal Works Agency

HIGHWAYS AND THE WAR

The war has produced many changes in the highway field. Construction of new highways and replacement of old, obsolete, and worn-out surfaces has very nearly stopped. In 1944, improvements were made only in the vicinity of war industries and training areas, to give access to raw materials for war purposes, or to condition main highways carrying a heavy war traffic. Men, materials, and machines were available only for needs most urgent in the conduct of the war.

Highway use was restricted by gasoline rationing, shortage of repair parts, limitation of speed, continued use of old vehicles and old tires and deterioration of highway surfaces. In spite of these handicaps, highways continued to supply essential services in the movement of food and goods, in the daily movement of war workers to and from their jobs, in the transport of freight for war production, and in the movement of implements of war to ports for shipment to the front. Total traffic on highways outside of cities was only about 60 per cent of that in the peak year 1941 but the volume of freight hauled was about three-fourths of that in 1941 and was greater than in any year before 1940.

HIGHWAY CONSTRUCTION

Since the beginning of the war the Federal Government has restricted construction to roads of critical importance in war effort. By the summer of 1944 state construction, including access roads built with Federal funds, had shrunk to about one-fifth of that in the summer of 1941. Unused motor vehicle revenues were accumulating in most states and will be available to finance post-war highway construction.

Highways completed with Federal funds in the fiscal year 1944 totaled 5,695 miles as compared with 12,936 miles in 1941. The work completed was composed entirely of access roads to war industries, training centers, sources of raw materials, and work on main highways in critical need of improvement. The access road program financed with $290,000,000 in Federal funds is now practically at an end. The roads built have made possible the daily flow of men and materials to war industries, the functioning of training centers, and rapid movement of war materials to ports for shipment.

The number of men employed on highway work with Federal funds in the summer of 1944 was only about 15 per cent of the number in 1941.

The state highway departments are reporting difficulties in the maintenance of highways. The most serious troubles are in obtaining repair parts for machines, and replacement of worn-out machines, particularly trucks. The number of men employed on state highway maintenance is about three-fourths of the normal number.

HIGHWAY USE

The traffic on our highways presents a picture distinctly different from that in peacetime. For three years there has been rationing of gasoline, a great shortage of new tires and new vehicles, and a scarcity of repair parts and mechanics. Since 1941 the number of motor vehicles registered has declined from 34,765,000 to about 29,655,000, and gasoline consumption has declined 28 per cent.

The greatest change that has taken place is the elimination of a very large portion of recreational travel. Traffic on rural roads is 60 per cent of the traffic in the peak year of 1941. There has been less of a decline in traffic in cities owing to the large daily movement of war workers.

In spite of the handicaps on highway use a large demand for highway transport for war purposes is being met. At a majority of the war plants over 80 per cent of the workers travel to and from work by highway. Intensive efforts to compel group riding are necessary. Workers are told that they must form clubs or lose supplemental ration cards with the result that occupancy has risen to 4.5 persons per car at some ordnance plants.

Highways are normally used for a great movement of food and materials needed in the daily life of the nation. To this has been added movement of raw materials from remote places and interchange between plants of parts or partially manufactured war implements. Special trucks with long bodies now haul guns, jeeps, ambulances, truck bodies, and "ducks" to ports of embarkation. Critical supplies, completed at the last minute, are rushed to ships by highway. The tonnage of goods moved over the highway is well above that in the average pre-war year but somewhat below that in the peak year 1941. The movement in 1944 is estimated at slightly over 43,000,000,000 ton-miles as compared with 28,000,000,000 in 1936 and 58,700,000,000 in 1941.

The National Safety Council reports that deaths from highway accidents in the first eight months of 1944 amounted to 14,400 or six per cent more than in the same period in 1943. Fatalities from motor vehicle accidents in 1943 amounted to 23,400 as compared with 39,969 in the peak year of 1941.

POST-WAR HIGHWAY PLANNING

At the beginning of the war there was a serious need for major highway improvements. The main through highways had many sections that were inadequate for modern traffic because of lack of width, curvature, and grades or condition of the surface. The most serious traffic conditions were in and near cities where narrow roadways and streams of cross traffic caused delays, congestion and accidents. During the war the normal replacement of old, obsolete roads has been practically stopped, thus adding to the amount of work to be done after the war. Plans are being made to undertake a large volume of highway work at the end of the war. The urgency of the need for better highways when restrictions on automobile travel are removed and of employing large numbers of men in useful work both give incentive to planning activity.

A pattern for post-war highway improvement is presented in the report of the President's National Interregional Highway Committee transmitted to Congress early in 1944. The report recommends construction of a 33,920-mile interregional system. In greater part it would follow the routes of the most used Federal-aid highways. Parts of existing routes would be relocated while other parts would be modernized to recommended standards. Wherever justified by traffic volume the highways would have four or more lanes, divided at the center with grade separations at all highway and rail intersections. There would be no obstruction whatever to free flow of traffic.

The report proposes a bold attack on city traffic problems by extending the routes of the system through cities as express arteries with circumferential bypass and distribution routes around them. The express routes might be either depressed or elevated highways, divided at the center, with all cross traffic carried under or over them. Access to the express routes would be only at selected points. Businesses and residences would not have direct access to an express route.

Federal funds authorized for planning purposes amount to almost $60,000,000, of which nearly $50,000,000 are available for either construction or planning. It is estimated that approximately $35,000,000 will be matched by an equal amount of state funds and used to plan work that will cost $1,750,000,000. State highway departments report that plans are complete for work to cost $398,000,000 and that work is under way surveying and designing highways to cost $1,200,000,000.

THE INTER-AMERICAN HIGHWAY

Progress was made on the Inter-American Highway, notably in southern Mexico and on one of the most difficult sections of the entire highway in Costa Rica where it crosses a mountain range at an elevation above 10,000 feet. Of the 3,356 miles from the Texas border to Panama City, 2,458 miles may be traveled at all times, 311 miles is passable in dry weather only, and 587 miles is yet to be constructed. Travel from the Texas border to southern Mexico, a distance of 1,135 miles is now possible. The Mexican Government is pushing construction to close the gap that prevents travel to the Guatemalan border.

THE PAN-AMERICAN HIGHWAY

This highway is coincident with the Inter-American Highway to Panama and extends down the west coast of

South America, across the Andes to Buenos Aires and northward to Brazil. The section from the Columbia-Panama border to Buenos Aires, including alternate routes, is 8,097 miles in length. Many sections of these routes have been made better by local improvements. New construction of sections has been reported by Peru and Ecuador but there has been no other notable improvements. Further improvements will have to be made and gaps closed before tourist travel can be recommended.

THE MOTOR BUS INDUSTRY

By Carl W. Stocks
Editor, *Bus Transportation*

RECORD SERVICE VOLUME

During 1944 the motor bus industry served the greatest number of passengers in its history, even outnumbering the amazing record of the previous year. This service was provided under the most trying circumstances, for bus operators were continuously faced with the problems of insufficient manpower, a scarcity of tires and of short supply in replacement parts, all of which are vital to the continuity of bus operations.

In this third war year, traffic totaled 9,600,000,000 passengers in line haul service, of which 1,250,000,000 were hauled by the intercity carriers. Not all, however, rode long distances, for the intercity carriers are now handling large numbers of war workers to plants in suburban areas to the larger cities and are serving many army camps and training centers, often unreached by other means of public transportation, making it possible for service men to get to and from nearby cities when on furlough. Local transport bus companies handled the balance or 8,500,000, exclusive of those riding on free transfers, passes, and in charter service.

TRAFFIC OPERATING FACTORS

In handling this immense volume of traffic the intercity carriers had 30,675 buses and local transport companies 48,200 buses. These so-called common carrier buses rolled up 3,000,000,000 miles during the year—1,570,000,000 by the city and city-suburban carriers engaged in local transport and 1,490,000,000 by the intercity carriers. It is impossible to further subdivide the operations as between line haul and charter or off line services, other than to say that charter operations are small in comparison to line haul operations, in as much as private charter operations are not permitted under ODT regulations.

Based on information covering nine months operations for the year 1944, city companies now have 2.27 buses for each mile of line, those serving both city and surrounding territory employ 1.09 buses on the same basis, while the intercity carriers have one bus for approximately each 15 miles of line. On the major lines, buses in intercity service are rolling up mileage at the rate of more than 75,000 miles per year, while in local transport service the rate is somewhat lower, being approximately 40,000 for the year. Operating revenues per bus mile are currently running higher than in any previous period with intercity carriers taking in 43.61 cents, while the city companies and city-suburban operations range from 39.45 to 39.84 cents respectively. Operating costs have materially increased owing to higher labor costs, higher prices for repair parts, and supplies, so that net operating revenue per bus owned is decreasing. For the year 1944 operating revenue for the line haul bus companies, including charter service operated, amounted to over $1,000,000,000 for the second consecutive year, divided as follows for the current year: intercity carriers, $535,000,000, and local transport companies, $588,800,000. Net income after all taxes totaled $80,300,000 and was divided: $51,300,000 for the intercity group of carriers and $29,000,000 for the local transport group.

These unparalleled figures are owing in part to transportation services required by increasing numbers of men and women in the armed forces, war plant workers, and a general increase in civilian employees; also, the gradual depreciation and scrapping of automobiles has forced many former private car riders to depend on public transportation systems. More than 3,000 cars a day are being scrapped, going off the highways permanently, a total of 1,100,000 estimated for 1944. The national total of passenger cars surviving will have declined from about 28,150,000 on Jan. 1, 1942 to 24,400,000 on Jan. 1, 1945. As for new cars, according to the Office of Price Administration the stockpile of new cars available in December, 1944 was under the 20,000 level, which is less than a pre-war two days' supply.

BUS PRODUCTION

Government authorities, aware of the increasing demand for bus service, and aware also that the vehicles in service were rapidly depreciating under unusually heavy passenger loads, permitted an increase over 1943 in the number of new buses to be built in 1944. While the quota for 1944 was still far from adequate, these new vehicles have helped considerably to lessen the burden in localities where service problems were becoming more and more critical. A total of 6,004 integral buses (buses with chassis and body as one unit as distinguished from body-on-chassis type) were produced in 1944, although 6,700 were scheduled to be built. Of the body-on-chassis type buses, 6,686 were produced, compared with a scheduled 10,000. The Office of Defense Transportation is charged with the allocation of these vehicles wherever the need is deemed to be greatest.

The school bus field has been particularly hard-pressed for vehicles. While 3,192 new school buses had been built during the year of a 1944 production quota of 5,000, opening of schools in the fall found many without adequate transportation equipment. In many localities the vehicles on hand were found to be unsuitable and unsafe for pupil transportation. It was reported that the average school bus replaced during 1944 was manufactured in 1935 and had covered more than 100,000 miles. Some reports showed that 5,625 school buses manufactured in 1933 or earlier are still in use. Reinstatement on Oct. 15, of a free market in the sale of second-hand school buses and other local passenger transportation equipment was expected to stop a developing black market in school buses.

As for bus production in 1945, the outlook is still encouraging notwithstanding the cut back early in December. The program announced by the War Production Board provides for 9,413 integral buses, 12,700 bus bodies, and more than 300 trolley buses, but ODT, WPB, Canada, the Army, Navy, U.S. Maritime Commission, and the Foreign Economic Administration continue to be claimant agencies for these new vehicles. Thus the number of buses that will be made available to the motor bus industry is dependent upon the requirements of the above agencies.

MATERIALS

Meanwhile, the task of keeping the buses that are on hand in operating condition requires the greatest ingenuity on the part of the bus maintenance forces. The need for the vehicles to be in service continuously does not permit the buses to be completely overhauled at regular intervals as was done before the war. Thus the strain of heavy passenger loads, together with inadequate preventive maintenance, results in more rapid depreciation than in normal times. Because of the short supply in replacement parts which existed throughout the year, hundreds of buses have from time to time been forced out of service. However, the ingenuity of some bus companies in re-making worn parts has accounted for keeping innumerable buses in operating condition. More materials used in making replacement parts, such as carbon steel, alloy steel, copper and aluminum, were allotted in 1944 than the largest allotment of controlled materials since early in 1943, but the manufacture of replacement parts was not stepped up until the latter part of the year. Here, too, when more parts are manufactured, needs of the Army, Navy, and other agencies have high priority. Thus the problem in so far as buses are concerned will continue to be difficult.

The shortage of tires has been another problem in operating motor bus service. Hundreds of tireless buses were up on blocks in garages from time to time during the year. In most critical cases OPA has been able to supply some new tires but not enough to keep all buses in service. Indications are that the tire shortage will become even more serious, at least through the early part of 1945. Manpower shortages in the tire manufacturing industry, together with inadequate plant facilities to keep pace with the new tire demand are the chief causes for the shortage.

MANPOWER

The lack of manpower has also been a problem to bus operators. Early in the year when Selective Service reclassified manpower to meet Army and Navy demands for younger men, it was estimated that the loss in manpower for bus companies ranged from 5 to 10 per cent of their total personnel, but this is loss to the armed forces and does not include the loss to other industries, particularly in communities where the need for war plant workers was urgent. In spite of the assistance offered bus operating companies by the U.S. Employment Service, it has been increasingly difficult to find replacements of the high type needed in public transportation service. The hiring and training of women to replace this loss of manpower has in most cases proved satisfactory where women were available.

FUTURE BUS SERVICE

One of the outstanding trends to be noted in the motor bus industry during 1944 was a shift of millions of dollars worth of bus properties to new ownerships. It is a healthy trend, for this "new blood" will add to the impetus of expanding and improving motor bus service as soon as equipment and materials are available.

As in other industries, extensive post-war plans are being formulated in the motor bus field. Many bus companies are planning to supplement their service with helicopter, or airbus service. This service will naturally shorten distances and greatly add to the convenience of bus patrons. Approximately 80 bus companies in the United States and Canada have already applied to the Civil Aeronautics Board for permission to provide this supplementary service.

It is expected also that extensive use of two-way radio communications will eliminate delays in bus service where breakdowns occur. Several bus companies are at present installing and testing such systems in efforts to determine the benefits that can be derived from such a service.

Bus manufacturers, including those who have been almost entirely engaged in the production of war materials, have continued their research and development plans for new buses far superior to pre-war types. These new vehicles will incorporate many features for riding comfort and will serve an important part in rebuilding luxury bus service which has necessarily suffered under wartime operating conditions.

Thus briefly mentioned above are but a few of the hopes and plans for this great industry after the war. Cessation of hostilities may not mean that these plans can be effected immediately, for some shortages may still exist, but as quickly as materials and equipment are released and operating restrictions are lifted, bus operators will welcome the opportunity to accommodate bus patrons with services far superior to any offered heretofore.

COMMUNITY TRANSIT

By Charles Gordon
Managing Director, American Transit Association

RECORD TRAFFIC VOLUME

Community transit travel, that is, travel in motor buses, trolley coaches, street cars, and rapid transit trains operating within the urban and suburban areas of the United States, reached an all-time high of 23,000,000,000 rides in 1944. This volume of traffic is equivalent to moving the entire urban population of the United States in all communities of 2,500 population or more, somewhat more frequently than once each day. The average number of rides per person, including men, women and children, in the urban areas actually served by public transit is, therefore, considerably greater than one per day.

This wartime travel load represented an increase of about 4.5 per cent over the previous year; the smallest percentage increase since the United States entered the war. The traffic level in 1944 was 76.8 per cent above the pre-war 1936-40 norm, and probably represents the present maximum capacity of the transit industry without further additions to plant, vehicles, and labor force, and with present shortages of materials.

FACTORS IN HEAVY WAR TRAVEL

It goes without saying that the factors working to limit the amount of service that could be regularly operated resulted in substandards of service in many places, particularly in the rapidly expanding war production centers where vehicles were often continuously crowded and, in rush hours, carrying absolute maximum standing loads. Passenger crowding, however, was alleviated to a great extent and the over-all traffic capacity of the industry expanded through the continued efforts of public officials, employers, and employees in staggering the hours of employment.

TRANSIT OPERATIONS IN 1944

	Calendar Year 1944 (Partly Estimated)	Per Cent Change 1944 Over 1943
Transit Passenger Traffic	(Millions)	
Surface Street Car..	9,562	4.5
Rapid Transit......	2,616	−1.5
Trolley Coach......	1,263	7.5
Motor Bus........	9,559	6.0
Total.........	23,000	4.5
Transit Vehicle Miles		
Surface Street Car..	997	1.9
Rapid Transit......	461	−0.2
Trolley Coach......	134	3.1
Motor Bus........	1,738	2.7
Total.........	3,330	2.1
Transit Revenues		
Surface Street Car..	567	5.6
Rapid Transit......	147	−1.3
Trolley Coach......	68	6.3
Motor Bus........	578	6.3
Total.........	1,360	5.4

As in the preceding years of the war, traffic in the smaller cities increased at a more rapid rate than in the large cities. In fact, in cities of over 1,000,000, transit traffic has been approximately stable at about 30 per cent above the 1936-1940 average for the past two years, with practically all of the 1944 increase taking place in cities of less than 1,000,000 population. This is primarily owing to the fact, that in the smaller cities a greater proportionate share of the total riding is by private automobile. Continued tire and gasoline restrictions, combined with reduced automotive registrations, have thus produced a larger shift of traffic in these places than has been experienced in the metropolitan centers of over 1,000,000 population.

1943-1944 TRANSIT TRAFFIC INDEX

(1936–40 = 100)

	1944 Index (Partially Estimated)	1943 Index
Cities Less Than 250,000	271.3	254.7
Cities 250,000–1,000,000	204.2	191.7
Cities over 1,000,000	129.6	129.0
United States Total	176.8	169.4

TRANSIT EQUIPMENT

Predictions that public transit would be unable to continue to carry the war-imposed burdens of traffic because of parts and manpower shortages have not materialized. Under the able guidance of the Division of Highway Transport of the Office of Defense Transportation, intensive efforts to anticipate critical shortages and to prevent a public transportation crisis have kept the industry on an even keel.

During the past year the production of transit equipment began to approach its pre-war levels as indicated in the tabulation below which shows the trend of transit vehicle production from 1939 to date. In the last two columns are shown the number of vehicles of each type authorized for construction by the War Production Board and those actually constructed. The apparent contradiction in these figures, in that construction has exceeded authorization in 1944, is accounted for by the fact that there was a substantial "carry over" of vehicles authorized for 1943 construction which were not actually completed until 1944 because of difficulty in obtaining necessary materials.

ANNUAL TRANSIT VEHICLE PRODUCTION

Type of Vehicle	1939–40 Average	1941	1942	1943	1944 Authorized by WPB	1944 Actually Constructed
Street Car	444	522	344	32	300	361
Rapid Transit	77	0	0	0	0	0
Trolley Coach	484	417	336	117	0	55
Motor Bus	4,200	7,360	7,200	1,251	3,100	4,010
Total	5,205	8,299	7,880	1,400	3,400	4,371

With but one exception there were no critical shortages of essential parts or materials. While parts and gasoline were not in surplus, they were in adequate supply to maintain reasonably well all essential equipment which had not long since served out its useful life. Tires, however, were an important stumbling block to keeping motor transportation equipment rolling. Toward year-end, tire shortages became increasingly serious and many buses were laid up on this account. Owing to the high heat generated in heavy tires of the type used on buses, synthetic rubber in its present stage of development has not given the life that crude rubber had previously given. This fact, combined with the substitution of cotton for rayon in the casing fabric, necessitated more frequent replacement of tires and thus required greater production. The labor situation in the important tire production centers of the country was such as to make this increased production impossible. Technological improvements in tires, changes in labor practices, and the release of skilled heavy-tire makers from the Army, are expected to result in some improvement in this situation during the coming year.

PERSONNEL PROBLEM

The problem of insufficient personnel continued to plague the transit industry during 1944. While total manpower requirements in the industry were only slightly greater in 1944 than in 1943, high turnover rates, including losses to the armed services, made it necessary to carry on continual and strenuous recruiting programs.

These recruiting programs met with varying degrees of success. Rarely were transit companies ever able to obtain the required number of employees. Thus, throughout the year much transit equipment had to be left inoperative for lack of personnel either to repair and maintain the equipment or to operate it.

The utilization of women in many capacities was continued and expanded but considerable difficulty was experienced in holding them on the job, particularly in positions as vehicle operators. The irregular hours of work, particularly for new employees with low seniority, was undoubtedly a large contributing factor in this problem.

Notwithstanding these difficulties, the transit industry was able to keep nearly all of its available vehicles in operation, even though this meant that substantial numbers of employees had to work extremely long hours.

LABOR RELATIONS

During the latter half of 1943, the War Labor Board experienced increasing difficulty in the application of its wage stabilization policies to the transit industry. Brackets of sound and tested going rates for occupations in the transit industry could not be established under the method used for other industries because, in a single labor market area, there is generally but one transit company, and thus there was no single basis for comparing the adequacy of the hourly rates.

To solve this problem, the National Board held public hearings in December 1943 at which industry and labor suggested methods which they believed adaptable to the peculiar circumstances existing in the industry, and by which the proper level of wage rates might be set. These hearings culminated in the issuance of the Vinson "Transit Directive" of April 14, 1944 which established a new and unique method for determining wage rate brackets for the industry. As of the close of 1944 this was the only industry in the United States for which a specialized method of wage determination had been established by the Board.

Under the Vinson Transit Directive the approvable rates payable by transit companies to their employees are determined, not by comparison with rates paid in other industries in the same local labor market area, but by comparison with the rates paid by transit companies in all cities of comparable size in each War Labor Board Region. By this means, the Board has effectively stabilized the rate structure of the industry at a level approximately 25 to 30 per cent above that on Jan. 1, 1941.

WAGE STABILIZATION

Hardly had this been done before pressure began to be exerted to obtain wage increases through changes in overtime practices. Being exempt from the hours provisions of the Fair Labor Standards Act, as are all other branches of transportation, and because of the difficulty of establishing any fixed and regular length of working day for its operating employees, the historical method of overtime payment had been to pay premium rates for any work performed beyond the length of an operator's run; runs ranging from somewhat below 8 hours to somewhat in excess of 9 hours. The approximate lengths of the runs had customarily been established by the process of collective bargaining and, when so established, the period at which overtime would be paid was automatically determined. By the payment of overtime for a fixed number of hours which were less than the length of the regular run, the average hourly earnings of the employees could, thereby, be substantially increased, without any change in the basic rate.

Sensing the need for a national policy with respect to overtime in the transit industry, the National Board again called public hearings and in September 1944 issued a resolution setting up criteria to be used by the Regional Boards in determining whether improved overtime provisions might be approved by the Regional

Board. The effect of the resolution is to insure that overtime payments not be used as subterfuges to obtain hidden wage increases but, rather, that any change in overtime provisions must be in a *bona fide* effort to shorten the average work day of the employees. Again this is the only industry that has been accorded special treatment with respect to overtime by the Board.

A further innovation in wage stabilization was the promulgation by the National Board in September of a formula for the determination of the payment of bonuses to employees of transit companies to compensate them for what the Board terms the "increased and unusual work load" borne by the men during the war emergency.

In other industries, incentive bonuses are not infrequent but there was no way in the transit industry to establish any proper incentive bonus. The Board recognized, however, that the impact of traffic increases had varied between different companies, and that in certain areas the men were actually performing more arduous work than previously, for which additional compensation could not be granted under the Transit Directive. The bonus formula takes into account this increased work load and relates changes in hourly wage rates more closely to increases in revenue than would otherwise have been possible.

POST-WAR PLANNING

Having apparently reached its approximate traffic peak and feeling relatively secure in its ability to meet all expected travel demands throughout the remainder of the war, the transit industry began to turn its attention to the place of public transit in the post-war community. It is well recognized that whatever changes in land uses and the structures thereon which take place within the community and which promote its orderly growth and sound development, will also be in the long-term interest of community transit.

Transit management, therefore, turned its attention to the type of service that it should render in the post-war community in order best to promote the general community welfare.

EQUIPMENT AND OPERATING IMPROVEMENTS

Improvements in equipment and operating practices are being studied carefully by transit companies, individually and jointly, throughout the United States. Equipment will be modernized and the purchase of new vehicles will take place as soon as production facilities materials are available. These new vehicles will contain many improvements for the comfort of the rider and to enable transit companies to provide more efficient, convenient, and speedier service. For example, the modern lightweight street car, commonly known as the PCC car, of which there are approximately 3,000 in operation in the United States and Canada, is being redesigned to reduce weight and cost, and improve riding quality with added quietness. Pilot models are expected to be operating before the end of 1945, if critical materials required in the construction of the car can be released.

Similarly, the manufacturers of motor buses and trolley coaches are working towards the same end. Major anticipated improvements are in riding quality through the use of new types of springing, and in improved power plants with less weight per horsepower, greater economy in operation, and reduction of objectionable noises and fumes. These developments will probably not come into general use until after the end of the war.

TRAFFIC FORECASTS

Traffic forecasts, prepared by the American Transit Association for the post-war years, do not indicate any immediate or very great slump in traffic, even after restrictions on automobile use have been lifted. It is anticipated that traffic will continue at about its present levels until gasoline and rubber tires are again ration-free, when traffic will doubtless begin to decline but this drop will be offset by a continued shortage of passenger automobiles.

The long term effect, however, of free automotive competition will, undoubtedly, result in lower than current transit riding volumes but the indications are that the downward trend will be at such a rate as to permit the transition between war and post-war conditions to take place in an orderly manner over a rather extended period of time.

Of most significance, perhaps, from the standpoint of the post-war place of transit, is the increasing attention municipal administrators and legislators, city planners, highway and traffic engineers, and civic agencies are giving to the place that public transit should occupy in the future of our American cities.

This is evidenced by the efforts being put forth to revitalize municipal planning machinery and to modernize state enabling legislation permitting comprehensive planning for metropolitan districts and also by the emphasis being given to community transit and the coordination of urban transportation facilities.

TRANSIT PLANNING

Extensive rapid transit plans are being completed in large cities, notably Chicago, Cleveland, Detroit, Washington, D. C., Toronto, and Montreal.

Comprehensive master plans are being brought to first stages in many communities under the direction of city planners and official planning agencies in cooperation with transit companies. Throughout the country, there is a renewed interest in approaching post-war community building and rebuilding on facts and basic data regarding population, land use, housing, recreational facilities, public building needs, zoning, rail, water, and air transportation, streets and local transit facilities—all these geared to the community's future financial possibilities.

The Public Roads Administration and state highway officials, responsible for improving existing major streets and highways and planning through motorways within urban areas, are proceeding in cooperation with transit, trucking, and other transportation officials to assemble and interpret pertinent data relative to travel habits, through public opinion surveys and traffic origin and destination studies. In connection with the new motorways there is a growing demand for incorporating adequate facilities for all vehicles using these public ways for conveying people and goods.

More spectacular, perhaps, are plans for local air service within metropolitan areas through the use of helicopters and landing terminals located in some instances close to the heart of the metropolitan district. The future will probably bring a coordination of air and surface public transit service.

Looking ahead into the interim period of readjustment from war to peace, most communities are continuing their war transportation conservation committees, set up by request of the Office of Defense Transportation, to establish programs to obtain the maximum of transportation from existing streets and transit facilities, and thus minimize dislocations which would otherwise result during the transitional years from war until the post-war plans become a reality.

The war has brought the citizen face to face with community transportation fundamentals. He realizes, whether suburbanite or city dweller, that public transit has far-reaching implications upon community welfare. A metropolitan interest, therefore, has grown out of war experiences. This turn in public thinking, and the present tendency on the part of Federal and state highway agencies to approach interregional highway planning in urban areas primarily from a community standpoint, should augur well for a coordinated system of urban transportation.

The resulting circulatory pattern should enable each type of transportation to render the services for which it is best fitted within areas where and when it is most efficient without unnecessary interference from other types of vehicles.

XIII. MANUFACTURES AND TRANSPORTATION

THE MERCHANT MARINE

By John C. Niedermair
Bureau of Ships, Navy Department

GENERAL

As predicted a year ago, the shipbuilding records made in 1943, both in numbers and tonnage, were not exceeded during 1944. This change of pace was largely owing to concentration on new and more complicated types, such as the Victory ship, combat transports, and other special ships. Post-war planning regarding the future of the American Merchant Marine occupied a spotlight position throughout the year. Post-war thinking during the early months of 1944 produced many reports of cut-backs in shipbuilding. Employment in the shipbuilding industry for the construction and repair of vessels of all types reached a peak in November 1943 of approximately 1,723,300 persons, of whom over 13 per cent were women. After November 1943 there was a gradual decline in employment, and by July 1944 the employment in the shipyards was reduced to 1,562,900. Up to December the year's production in Maritime Commission yards was 1,532 vessels, totalling 14,986,538 deadweight tons.

THE SHIP PRODUCTION RECORD

January.—The 124 vessels, totalling 1,204,730 deadweight tons delivered during January 1944 increased the tonnage, put into service since Pearl Harbor, to 26,625,263 tons and increased the size of the Victory Fleet to 2,775 ships. The preponderance of military types delivered during January and the shift from Liberty emergency cargo vessel construction to the Victory ship and other long-range ships, all requiring considerably more man-hours, were cited in explanation of the temporary decline in the number of ships delivered as against the December record of 208. Some of the ships originally designed for merchant service exclusively were adapted for military use. During January, 23 special-type vessels were delivered to the military services. Other ships delivered were: 72 Libertys, nine standard C-type cargo ships, 11 standard tankers, three emergency tankers (converted from Liberty ships), two coastal tankers, and four concrete barges. Of the 1,204,730 deadweight tons, the West Coast yards produced 67 ships or 50.6 per cent of the deadweight tonnage total; those on the Gulf Coast 20, or 18.4 per cent of the total; and the East Coast yards built 37 ships, or 31 per cent of the total tonnage for the month.

February.—With the delivery of the first Victory ship to the Maritime Commission on Feb. 19 and with the shipyards getting underway on the Victory ship program, the decline at the first of the year ended and production continued at a good rate throughout the year thereafter. The first Victory ship was among the 134 vessels of 1,372,864 deadweight tons delivered by Maritime Commission yards during February 1944. Despite the seasonal decline in manpower owing to unfavorable weather conditions, etc., the yards succeeded in delivering 10 more ships of 168,134 deadweight tons in February, as compared with the January record. During this month, 18 standard C-type cargo ships were delivered, and the other ships were 77 Libertys, one Victory ship, 15 standard tankers, two Naval tankers, two emergency tankers (converted Liberty ships), three coastal tankers, one seagoing tug, 13 special craft for the armed services, and two concrete cargo barges. The West Coast yards delivered 57 vessels, including the Victory ship, and 56 Libertys, of 589,344 deadweight tons or 42.9 per cent of the total for the month. The Gulf Coast yards delivered 26 ships of which two were concrete cargo barges, totalling 252,419 deadweight tons or

18.4 per cent of the total tonnage. The East Coast yards delivered 48 ships of 528,101 deadweight tons or 38.5 per cent of the total tonnage. The Great Lakes yards delivered three special type ships totalling 3,000 deadweight tons or 0.2 of the total. During this month the Oregon Shipbuilding Corporation completed the last ship of its contract with the Commission for Liberty ships. A total of 322 vessels, with a total contract value of over $600,000,000, was delivered by this yard. Operating with 11 ways, the yard laid its first keel in May 1941 and completed one ship in December of that year, followed by 113 in 1942, 197 in 1943, and 11 to March 1944. The production of this yard was thereafter devoted to the construction of Victory type cargo ships.

March.—One hundred and fifty-two vessels totalling 1,538,357 deadweight tons were delivered during March by the Maritime Commission yards. The total for the first quarter of the year was 410 ships of 4,115,951 deadweight tons. This compares well with the first quarter of 1943 when 379 vessels, totalling 3,757,405 deadweight tons, were delivered. During this month 83 Libertys and four Victory ships were delivered. The other types delivered were 19 standard tankers, 16 type C cargo vessels, 21 special-type vessels for the armed services, and nine small vessels. The West Coast yards produced 70 vessels, of 674,019 deadweight tons, or 43.8 per cent of the March total tonnage; the East Coast yards delivered 47 ships of 533,241 deadweight tons, or 34.7 per cent of the tonnage for the month; and the Gulf Coast yards delivered 34 ships of 330,097 deadweight tons, or 21.4 per cent of the month's tonnage. The Great Lakes delivered one ship of 1,000 deadweight tons, or 0.1 per cent of the month's tonnage.

April.—One hundred and fifty-four ships were delivered during April, totalling 1,593,691 deadweight tons. Ten of the new Victory ships were delivered during the month. The West Coast yards delivered 62 vessels totalling 639,823 deadweight tons, or 40.1 per cent of the tonnage for April; the East Coast yards produced 55 vessels of 606,511 deadweight tons; and the Gulf Coast yards delivered 36 vessels totalling 346,357 deadweight tons, or 21.7 per cent of the month's tonnage. The Great Lakes yards contributed one ship of 1,000 tons, or 0.1 per cent of the tonnage.

May.—One hundred and fifty-five ships were delivered totalling 1,537,915 deadweight tons. Sixteen Victory ships were delivered during the month; some of the other types delivered were 67 Libertys, 14 standard C-types, 23 special type vessels for the armed services, eight coastal cargo vessels. The West Coast yards delivered 68 vessels totalling 686,291 deadweight tons, or 44.6 per cent of the May tonnage; the East Coast yards completed 45 vessels of 494,986 deadweight tons, or 32.2 per cent of the total tonnage; the Gulf Coast yards produced 32 ships of 337,823 deadweight tons, or 22 per cent of the total; and the Great Lakes yards completed 10 ships of 18,815 deadweight tons or 1.2 per cent of the tonnage for the month. The California Shipbuilding Corporation completed its last Liberty ship during the month. A total of 336 Liberty ships were built at this yard of which 30 were converted to the Liberty tanker type. The yard's continuing program included Victory type cargo ships of which several had been delivered during this and previous months.

June.—One hundred and forty-five ships totalling 1,379,994 deadweight tons were delivered during June. This brought the total at the half-year mark to 864 ships totalling 8,627,551 deadweight tons. The comparable record for the first half of 1943 was 879 ships totalling 8,813,990 deadweight tons. Fifteen Victory type cargo ships were delivered during the month; the others included 55 Libertys, 13 standard C-type cargo ships, 20 standard tankers, eight coastal cargo vessels, 28 special-type vessels for the armed services, and a number of smaller types. The West Coast yards completed 49 ships totalling 507,804 deadweight tons, or 36.8 per cent of the month's tonnage; the East Coast yards produced 48 ships of 507,354 deadweight tons, or 36.8 per cent of the total tonnage; the Gulf Coast yards produced 35 ships of 346,547 deadweight tons, or 25.1 per cent; and the Great Lakes area completed 13 ships totalling 18,289 deadweight tons or 1.3 per cent of the June tonnage total.

July.—One hundred and twenty-six ships of a total tonnage of 1,274,433 deadweight tons were completed in July. The decline in numbers and tonnage was owing chiefly to the production of more complicated ships needed to meet the various military requirements. Another contributory cause for the decline in production was the shortage of manpower in the various yards. Thirteen new Victory ships were delivered in July, 24 special-type vessels were delivered to the military services, 51 Libertys, 10 standard C-type cargo ships, 19 standard tankers, four coastal cargo vessels, and a number of smaller vessels. The West Coast yards produced 34 ships totalling 391,605 deadweight tons, or 30.7 per cent; the East Coast led the West Coast with 51 ships totalling 522,113 deadweight tons, or 41 per cent; the Gulf Coast area delivered 37 ships of 356,715 deadweight tons, or 28 per cent; while the Great Lakes yards built four ships totalling 4,000 tons or 0.3 per cent of the total July tonnage.

August.—One hundred and nineteen ships totalling 1,157,602 deadweight tons were delivered, indicating another sharp drop largely owing to the construction of special-type ships for the Army and Navy. The production of Libertys fell to 50, none of which was built in West Coast yards. The other types delivered during the month were 28 special military type ships, nine Victory ships, 16 standard tankers, seven standard C-type cargo ships, five coastal cargo ships, and a number of other smaller ships. The East Coast yards delivered 50 ships totalling 508,164 deadweight tons, or 43.9 per cent of the total tonnage for the month; the Gulf Coast yards produced 34 ships of 348,360 deadweight tons, or 30.1 per cent; the West Coast yards built 30 ships totaling 292,068 deadweight tons, or 25.3 per cent of the total tonnage; and the Great Lakes area produced five ships of 9,010 deadweight tons, or 0.7 per cent of the August tonnage. Nearly half of the ships were built in the East Coast area, and the West Coast yards dropped to third place from the second place position of last month, after being the leader in numbers and tonnage since the early days of the war. This change in position was largely owing to the continued production of Liberty ships in the East and Gulf Coast areas while the West Coast yards were building the special military types and Victory ships.

September.—One hundred and twenty-four vessels aggregating 1,185,997 deadweight tons were delivered during September. This total included 43 Liberty ships, seven Victory ships, five C-type cargo vessels, 34 special types for the military services, seven coastal cargo vessels, 19 standard type tankers, and a number of smaller vessels. The East Coast yards delivered 39 vessels of 410,300 deadweight tons, or 34.6 per cent of the September tonnage; the West Coast yards built 45 ships totalling 404,555 deadweight tons, or 34.1 per cent of the total tonnage; the Gulf Coast yards produced 32 ships totalling 339,082 deadweight tons, or 28.6 per cent; while the Great Lakes yards built eight ships totalling 32,060 deadweight tons or 2.7 per cent of the total.

October.—One hundred and forty-five ships totalling 1,310,295 deadweight tons were delivered during this month. Fifty-three of the ships were for use as combat-loaded transports, combat-loaded cargo ships, and Navy transports. Eleven others were Naval tankers, frigates, and Army transports. Thirty of the ships were of the Maritime Commission's long range fast types which included seven Victory ships, five C-type cargo vessels, and 18 standard tankers. The other ships delivered included 51 Libertys, nine coastal cargo vessels, and a number of smaller vessels. The East Coast built 50 ships aggregating 505,073 deadweight tons, or 38.5 per cent of the total tonnage; the West Coast yards also delivered 50 ships which totalled 398,933 deadweight tons, or 30.5 per cent of the total tonnage; the Gulf Coast area produced 36 ships totalling 373,229 deadweight tons, or 28.5 per cent; and the Great Lakes area delivered nine vessels totalling 33,060 deadweight tons or 2.5 per cent of the October tonnage. During this month the Bethlehem-Fairfield Ship Yard completed its Liberty ship program. This yard, near Baltimore, Md., built a total of 384 Liberty ships and was among the leading shipyards during the entire building program. The continuing program for this yard includes 97 Victory type cargo ships.

November.—One hundred and fifty-four ships were delivered to the Maritime Commission totalling 1,430,660 deadweight tons. This was the second highest production record thus far in 1944. Fifty-six of the ships were for the use of the armed services, nine were Victory ships, 48 were Liberty ships, 22 were standard tankers, and the remaining ships built during November included 11 coastal cargo vessels, five standard C-type cargo ships, and three concrete cargo barges. The West Coast yards again went into the lead in output by delivering 60 ships totalling 489,209 deadweight tons, or 34.2 per cent of the month's tonnage; the East Coast yards delivered 46 ships aggregating 472,537 deadweight tons, or 33 per cent of the total; the Gulf Coast yards built 39 vessels totalling 432,824 deadweight tons, or 29.6 per cent of the total tonnage for the month; and the Great Lakes area built nine vessels of 45,090 deadweight tons or 3.2 per cent of the total tonnage for November.

December.—No production data was available at the time this summary was being compiled, but the production for this month is estimated at about 150 ships totalling about 1,400,000 deadweight tons. The total estimated production for the year is about 1,680 ships aggregating about 16,390,000 deadweight tons. The total for 1943 was 1,898 ships totalling 19,238,626 deadweight tons.

THE MARITIME COMMISSION PROGRAM

A review of the Commission's program from 1937 to Sept. 1, 1944, as reported by the Maritime Commission, reveals that shipbuilding since 1937 under the Commission has resulted in the delivery of 3,900 vessels by American shipyards. At the time the Maritime Commission was first organized, there were only the permanent yards along the Atlantic and, to a lesser extent, the Pacific coasts, available. Some of these yards were engaged exclusively in naval construction. Others derived the bulk of their revenue from ship repairs.

Contract Number One for the Maritime Commission was for the liner *America,* to be operated on completion by the United States Lines. The building yard was the Newport News Shipbuilding and Dry Dock Company.

The next large construction order was for 12 high speed tankers, known at the time as "national defense" tankers. These vessels cost slightly over $3,000,000 each and had additional construction features that gave them a speed approaching 20 knots fully loaded, displacing about 25,000 tons. Such a vessel was the *USS Neosho,* lost at the time of the Battle of the Coral Sea.

In rapid succession came contracts for the construction of the C-type vessels with the first of them carrying the names of famous clipper ships, American built and American operated during the middle years of the last century.

EFFECT OF THE WAR ON THE PROGRAM

American ship operating companies were quick to secure these vessels for their offshore trade but hardly had a good start been made on rehabilitating the American Merchant Marine than the war began in Europe. Trade was interrupted and the shipping program hung in the balance until the situation cleared. The need for tonnage on other routes plus the loss to normal world shipping by the withdrawal of vessels by all belligerents, placed a heavy burden on American and other neutral shipping. As a result our ships were busier than before, and the shipbuilding program, designed for 50 new ships a year, went forward.

As the tempo of the war increased, our participation in it, although deflected from our minds as much as possible, was becoming inevitable. The shipbuilding capacity of Great Britain was being utilized mainly for Naval construction, and England turned to the United States for merchant tonnage, ordering 60 freighters built. These ships were the forerunners of the present day Liberty ships, the design of both being almost the same. To construct the 60 vessels, two shipyards were built, one at South Portland, Me. and one at Richmond, Calif. on the site of the present huge yards of the Permanente Metals Corporation.

THE EMERGENCY PROGRAM

At about the same time, the Maritime Commission laid plans for an accelerated shipbuilding program, both for long-range type vessels and emergency ships. Yards were established on the Atlantic, on the Gulf, and on the Pacific coasts. Contracts for hundreds of Liberty ships were let, and the work was begun. As the program expanded and the initial need for large capacity vessels began to be met, the Commission designed and let contracts for other types of ship. The coastal cargo, the coastal tanker, the seagoing tug, the concrete cargo, and concrete barge all began to make their appearance. Some of these ships reflected the almost desperate need of any vessel that would float; others showed that we were in a position where we could stop and build a special ship for a specific need.

RESULTS OF THE COORDINATED EFFORT

What has resulted from the coordinated effort of the Maritime Commission, the shipbuilders, and the armed forces? From more than 50 shipyards 3,900 vessels of all types had been delivered up to Sept. 1, 1944. Nine shipyards delivered more than 100 vessels each during this period. The leading yard was the Permanente Metals Corporation, Richmond Shipyards No. 1 and No. 2 with 497 ships delivered. This figure is not altogether a true one because for quite a while the yard was operating as two yards, and it is only within a comparatively short time that they were merged to make the one big yard with a corresponding increase in shipways available.

Number two yard is the east coast plant of the Bethlehem-Fairfield Shipyard, Inc., at Baltimore. Here 401 ships, 371 of them Liberty ships, were built. California Shipbuilding Corporation with 366 deliveries was the third largest producing yard, and the fourth was Oregon Shipbuilding Corporation turning out 364 vessels. Other big producers were North Carolina Shipbuilding Corporation, 171 ships; New England Shipbuilding Corporation, 169; Sun Shipbuilding & Dry Dock Company, 166; Todd-Houston Shipbuilding Corporation, 158; Delta Shipbuilding Company, 128; and Consolidated Shipbuilding Corporation, 99 ships.

By September the Liberty ship program was drawing to an end, and the production of Victory ships was gaining headway. Yards on the Pacific coast had delivered 68 Victory ships, and by October the first Victory ship to be built on the East Coast had completed her builder's trials. This ship was the *Frederick Victory*, built by the Bethlehem-Fairfield Shipyard, Inc.

LIBERTY SHIP TROUBLE

The ending of the Liberty ship program will see more than 2,500 vessels of this type completed. To Sept. 1, the number turned over to the Commission was 2,318. At that time there were about 350 more ships to be built.

No one can deny that without the Liberty ships a very different supply picture would have been painted. Much of the adverse criticism aimed at the Liberty ships has been on account of structural failures in a number of them with resultant loss of life and cargo. It was found, after considerable study, that internal stresses, set up by the alternate heating and cooling of the hull metal because of welding, could be relieved by the addition of a riveted plate along the juncture of the deck and the hull for considerable distances in the midships section. New ships presumably have had this done on the ways, while other ships were handled by repair gangs working wherever the ship lay rather than have the vessel go to a yard for repairs.

WAR PROGRAM RECAPITULATION

The Liberty ship production has been the most spectacular and the Victory ship production most important in the war-generated programs but the building of tankers has been one of the most essential activities taking place in the United States. The largest tanker building yard has been the Sun Shipbuilding & Dry Dock Company, at Chester, Pa. Other yards engaged in tanker construction are the Marinship Corporation, Sausalito, California and the Kaiser Company, Swan Island, Portland, Oregon. In service, by September, were 62 Liberty emergency tankers having a capacity of about 65,000 barrels of oil per vessel. The construction of these ships was the direct result of losses of regular tankers to enemy action.

Aside from the 2,318 Liberty ships built since 1937 there were the following: 382 tankers, 16 ore carriers, 289 military types, 70 coastal cargo, 118 tugboats, 85 concrete barges (including 15 concrete cargo ships), 450 standard cargo ships, 68 Victory ships, 62 emergency tankers, 40 wooden barges, and one passenger ship.

MILITARY TYPES OF SHIPS

The ambiguous designation of "Military type" has hidden a great contribution to the defense of the United States by many shipyards. With a total of 289 ships under this heading there is a sizable addition to the combatant vessels under the American flag. What is meant by Military types covers the entire range of Maritime Commission building. Specifically it means that certain vessels are contracted for by the Commission and upon completion turned over to the Army or the Navy. Coming under this classification are aircraft carriers of the escort type, frigates, combat cargo and attack transports, tankers, seaplane and submarine tenders. By the end of 1944 the Maritime Commission shipbuilding program was entirely of high class ships, competitively strong and, while the war continues, greatly aiding the armed forces to wrest victory from our enemies. No small part of that final accomplishment is shared by every shipyard worker in American yards.

SEAMEN'S WAR BONUS RATES

In the article prepared for THE AMERICAN YEAR BOOK for 1943, many items of interest were discussed which apply equally well to the year 1944. Since that time detailed information regarding gross pay received by the American seaman has been released for publication which forms an interesting record and which is considered well worth reproduction in the current record. The Maritime War Emergency Board ordered revised war risk payments, effective April 1, to the 125,000 officers and men of the American Merchant Marine. The Board consulted with ship operators and the Maritime Unions in setting the new rates.

The new bonuses are based, according to the Board, on a thorough study of confidential information on the hazards encountered at sea by reason of enemy activity. As a result of shifting war theaters and constantly improved effectiveness of anti-U-boat warfare, the payments will be reduced in safer areas and increased in hazardous areas. Revision in the three types of war risk bonus reflects the change in war risk.

The Maritime War Emergency Board's announcement included the statement that the average total monthly earnings, including war risk payments, on Liberty ships for offshore voyages was $244.50 for ordinary seamen and $775 for masters.

AREA HAZARD BONUS

Five dollars a day will be paid to masters, licensed officers, and seamen employed on vessels operating within the sea approaches to the combat areas, including the Greenland Sea and Barents Sea approaches to the Scandinavian peninsula and the Arctic ports of Russia; North Atlantic, North Sea, and English Channel approaches to the British Isles; North Atlantic and North Sea approaches to the English Channel and western Europe, excluding the Iberian Peninsula; Mediterranean Sea, Black Sea, and the approaches thereto; sea approaches to the south and east coasts of Asia, Islands of Malaysia, Australasia, and central and northern Pacific Ocean. The areas in which the Area Hazard Bonus was paid prior to April 1, 1944, were designated simply as the Murmansk, the Mediterranean, and the South Pacific areas. The new set-up enlarges the Murmansk Area, recognized new areas such as the approaches to the British Isles and western European ports, the south and east coast of Asia, central and northern Pacific Ocean. At the present time, American ships are not traversing certain of the areas mentioned in the preceding paragraph such as the Black Sea and approaches to the east coast of Asia, but as the Allied drive progresses, these areas will necessarily have to be included.

VOYAGE BONUS

One hundred per cent voyage bonus will be paid per month to masters, licensed officers, and a minimum of $100 per month to unlicensed personnel employed on vessels entering the marine approaches to the combat areas; 66 2/3 per cent voyage bonus will be paid per month to masters and licensed officers and a minimum of $80 per month for unlicensed seamen employed on vessels entering waters other than the waters adjacent to the West Coast of the Western Hemisphere. Twenty-five per cent voyage bonus will be paid per month to masters and licensed officers with a $30 minimum per month for unlicensed seamen on vessels entering areas of lesser risk, on the West Coast of the Western Hemisphere.

Under the previous arrangement, the voyage bonus of 100 per cent was payable in most areas of the world except for the Pacific Coast of the Western Hemisphere where the bonus was 40 per cent. By the insertion of the minimum to be paid, the reduction in the case of unlicensed personnel is negligible. For example, the 40 per cent previously paid for the Pacific Coast of the Western Hemisphere on an ordinary seaman's base pay of $82.50 amounted to $33 monthly. The new minimum is $30. In any event, the greater percentage of ships on which the 100 per cent bonus is paid remains unaffected. By awarding the ordinary seaman a minimum of $100 bonus monthly, he fares better than formerly when he received a 100 per cent bonus on a base pay of $82.50.

VESSEL ATTACK BONUS

Master, officers, and seamen employed on vessels that are destroyed or substantially damaged or on which any one has been killed or seriously injured as a result of enemy attack will be paid a bonus of $125.

PORT ATTACK BONUS

Heretofore the Port Attack Bonus called for the payment of $125 to each crew member whose vessel was in a port or anchorage when such port or anchorage was subjected to an enemy attack. This arrangement proved highly controversial in as much as a ship might be in a port under attack and come through unscathed. All that was necessary was for one enemy bomber to come over, drop one bomb, and depart. By changing this to apply only to a vessel actually destroyed or substantially damaged, regardless of whether in port or on the high seas, some justification becomes apparent.

COMMERCIAL AVIATION

By Andrew F. Haiduck
Vice President, Bellanca Aircraft Corporation

GENERAL

Despite many limiting conditions resulting from the continued conduct of the war, commercial aviation continued its steady progress, particularly in the field of scheduled air transportation. Revenue miles flown in the first ten months of the year increased 34.45 per cent over the same period in 1943. The number of revenue passengers in the same period increased 31.5 per cent while the passenger miles rose in the amount of 36.25 per cent. These figures do not include the activities of the Air Transport Command or the Naval Air Transport Services, whose operations were many times greater than the scheduled operations of the domestic airlines. Actually, 3,295,050 passengers were carried in the first ten months of the year. This was made possible by the continued intensive use of all airplanes, and the return of a substantial number of aircraft to the operators by the Government. It is estimated that the total number of passengers carried during the year exceeded the 4,000,000 mark, breaking all records.

Air mail ton miles showed a 40 per cent increase over 1943. An all-time high of 94,215,000 pounds of air mail was established for the first eight months of 1944. Although air mail today is a relatively small percentage of the total revenue of the airlines, constituting only 20 per cent of the total, it is a very lucrative source of revenue for the Post Office. This is evident from the fact that the Government made a profit of approximately $37,000,000 on air mail operations in 1943. At the same time, the unit cost to the Government was reduced from 3.18 mills per pound mile in 1941 to a figure of .3 mills in 1944. It is evident that more and more first class mail is going by air, approximately 18 per cent of all first class mail was air mail in 1944.

Air express poundage showed a 14.43 per cent gain and a 10.71 per cent increase in pound miles, under the continued stimulus of high priority war express. This phase of scheduled air transportation accounted for 6.8 per cent of the total revenue of the airline operators.

Fares remained in the vicinity of 5 cents per mile, although there were indications that this rate might be reduced in 1945 to approximately 4½ cents.

A billion dollar airport program was before Congress at the end of the year, contemplating the construction of 3,050 additional airports and improvement of 1,625 during the period of the next five or ten years. A post-war private flying boom will require this number of airports according to the study made by the Civil Aviation Administration. In fact, the Civil Aeronautics Administration predicts that there will be 400,000 private airplanes in use within the next ten years, and reconversion plans for the aviation industry were discussed by the industry at some length during the year. The principal problems were questions relative to the disposal of surplus planes and plants, the expeditious terminations of contracts and continued research and development. The number of the military transports which can be converted to peacetime use will probably be two or three times the probable market. Many of the surplus plants will probably be kept in a stand-by condition as a National Defense measure. However, all research plans are in practically the talking stage since the principal problem of the aircraft manufacturers was still military production, and approximately 100,000 military airplanes were built during the year.

Research continued on an intensive scale and perhaps the most spectacular invention was the final development and use of jet propulsion in aircraft. This fundamental invention represents the second major development in aviation engineering since the flight of the Wright brothers. The other radical departure in the past has been a development of rotating wing aircraft.

SCHEDULED AIR TRANSPORTATION MILEAGE

Revenue miles flown in the first ten months of 1944 were 116,263,866, a 34.45 per cent increase over the same period in 1943. Passenger miles showed an increase of 36.25 per cent over 1943. From January to October inclusive, 1,840,758,109 passenger miles were flown over the 36,982 miles of airways. The lighted airway mileage was 33,403 and 52,800 miles of teletype utilized in the vital weather reporting. The progress since 1927 is apparent when it is noted that the airway route mileage at that time was only 8,252 with 2,041 miles lighted.

In addition to the lighted airways, there were (as of Jan. 1, 1944) 291 radio range beacon stations, 63 radio marker beacons, 108 radio broadcast stations, and 485 weather reporting and airport stations. It was only in 1929 that the first two radio range beacon stations were put in operation.

The average passenger trip was 560 miles, a considerable increase over the 485 miles in 1943. This was owing in large part to the military traffic of a coast to coast variety. In fact, the Army accounted for approximately 75 per cent of the traffic, the Navy for an additional 13.2 per cent, and the remainder was distributed between air carrier and itinerant passengers. Airplanes were used intensively 10 to 12 hours per day, corresponding roughly to 1,600 to 1,900 miles. In 1941 the plane utilization averaged 8½ hours. Domestic scheduled airline operators consumed 63,908,388 gallons in 1943, and it is estimated that 84,000,000 gallons were used in 1944 as well as 1,178,000 gallons of oil. In 1930 the gasoline and oil consumed were respectively 11,457,065 and 371,459 gallons.

At the end of the year there were 317 airplanes in use by the airline operators, and additional orders for new aircraft totaled $150,000,000. The first of the 240 miles per hour planes will be in service before the end of 1945. They will carry 40 passengers, be more comfortable, and be so well equipped with new aids to flying that bad weather will have a negligible effect on operations. Thus the post-war traveler will be able to fly from coast to coast in nine hours.

PASSENGERS AND SCHEDULES

The number of revenue passengers carried during the first ten months of 1944 was 3,295,050, a 31.58 per cent increase over the figure of 2,504,238 for the same period in 1943. Revenue passenger miles flown during the same period were 1,840,758,109 as compared with 1,351,004,032 for 1943, representing a 36.25 per cent increase. The continued intensive use of airplanes on an average of from 10 to 12 hours per day resulted in an average load factor of 90.12, a 2.37 per cent increase over the 1943 average for the same period. American Airlines, United Airlines, Eastern Airlines, Pennsylvania Central Airlines, and Transcontinental and Western Airlines carried the greatest number of passengers in the order indicated. During the same ten-month period they transported respectively 762,315, 443,711, 380,053, 334,240, and 327,902 passengers, the total representing approximately 68 per cent of the total for all airline operators.

The impressive gains in passengers carried as well as passenger miles flown were caused in no small measure by the return of a substantial number of aircraft to the operators by the Government. Whereas there were 194 airliners in operation in 1943, the total number in operation, as of Dec. 27, 1944, was 317. Estimates of the number of passengers carried in the last two months of 1944 indicate that the all-time peak of 4,060,545 passengers carried in 1941 was equalled or exceeded slightly in 1944. In 1941 the railroads carried 16,911,000 revenue Pullman passengers, making the ratio of passengers transported by air to those carried by rails almost 25 per cent. The same ratio for 1943 was approximately 10 per cent owing principally to the reduction in the number of aircraft in scheduled air transportation from 359 in 1941 to 194 in 1943. It is evident that air competition in the transportation of passengers will be a very real threat to the railroads after the war. With the increased emphasis on the war in the Pacific in 1945, it is expected that the number of passengers will reach a record high. Additional details of air transport operations are shown in the tabulation on the next page.

The average passenger trip increased from 485 in 1943 to approximately 560 in 1944 owing principally to the preponderance of long haul military traffic generally of a coast to coast variety. The average miles per trip for 1930 and 1940 were respectively 224 and 388. The continued elimination of certain routes and schedules inaugurated in 1942 and 1943 owing to the reduced number of aircraft in operation also tended to increase the average trip in 1944.

AIR MAIL

Air mail ton miles based on actual figures for the first eight months of the year and estimated figures for the last four months, taking into consideration seasonal variation, were 50,000,000, a 40 per cent increase over the 35,800,000 ton miles for 1943. The air mail poundage for the first eight months of 1944 reached the all-time high of 94,215,000. Route miles of domestic air mail service remained at 45,000. Air mail is today a steady source of revenue for the Government, since the postal revenue exceeds the actual payment to contractors. In 1941 the postal revenue was $23,920,500 whereas the contractors received only $20,687,000. The same figures for 1943 were $60,485,000 against $23,348,000, a net profit to the Government of approximately $37,000,000.

One of the most vigorous individual advances in air mail was made by All American Aviation, operating the only pick-up service in the United States. Inaugurated in 1940 under a certificate of public convenience and necessity in Delaware, New York, Ohio, Pennsylvania, Kentucky, and West Virginia, this service expanded from an average mail load of 25.4 pounds in 1941, the first full year of operation, to 103.1 pounds for July 1944. This average mail load was higher than that of six of the other domestic carriers.

Air mail revenue in percentage of the total revenue of the airline operators has declined steadily since 1931 when it constituted 82.5 per cent of the total. In 1943 and 1944, however, it had declined to approximately 20 per cent.

In terms of payment to domestic air line carriers, this corresponded to $16,944,000 in 1931 and $23,348,000 in 1943. The greatly expanded operations in the same 12-year period resulted in the reduction of payments by the Government of from 3.18 mills per pound mile in 1941 to .3 mills in 1944. Air mail pound miles performed in 1931 were approximately 6,000,000,000, whereas 57,000,000,000 were performed in 1943. The ratio of air mail pound miles to non-local first class mail has shown corresponding gains in the same 12-year period. The ratio of 18 per cent for 1943 represents a 4½-fold increase over the 4 per cent for 1931. The trend towards transportation of all first class mail by air has secured additional impetus as a means for the continued healthy growth of the airlines so necessary if they are to remain a vital link in our scheme of national defense.

AIR EXPRESS

Air express continued its steady upward trend with an increase in poundage for the first ten months of 1944 of 14.43 per cent and a 10.71 per cent increase in pound miles over the same interval in 1943. Total pounds and pound miles were 59,523,398 and 28,439,372,256 respectively. Stimulated in large part by the urgency of war deliveries, air express showed the greatest yearly increase in 1942 when 40,101,657 pounds were carried as com-

AIR TRANSPORT OPERATIONS FOR THE FIRST 10 MONTHS OF 1944 COMPARED WITH THE SAME PERIOD OF 1943

Operator	Revenue Miles Flown January–October		Revenue Passengers Carried (Unduplicated) January–October		Revenue Passenger Miles Flown January–October	
	1944	1943	1944	1943	1944	1943
All American Aviation, Inc.	1,003,076	856,745	0	0	0	0
American Airlines, Inc.	27,936,984	21,931,138	762,315	665,248	466,669,181	365,603,137
Braniff Airways, Inc.	4,287,719	3,332,996	180,190	127,751	75,981,770	54,691,524
Chicago & Southern Air Lines, Inc.	2,270,725	1,835,459	84,513	69,326	39,703,972	29,551,091
Continental Air Lines, Inc.	1,921,527	1,287,003	54,776	39,543	19,284,672	12,536,358
Delta Air Corporation	2,779,258	1,876,517	132,661	88,983	52,774,871	34,751,279
Eastern Air Lines, Inc.	13,779,049	11,002,303	380,053	310,971	211,892,560	179,069,481
Inland Air Lines, Inc.	977,996	701,519	17,589	10,292	5,621,828	3,327,957
Mid-Continent Airlines, Inc.	1,855,295	1,164,927	61,812	29,658	17,757,033	8,246,401
National Airlines, Inc.	2,621,699	1,532,413	92,349	52,444	31,498,069	18,343,910
Northeast Airlines, Inc.	822,458	576,225	43,462	29,951	10,591,196	7,474,109
Northwest Airlines, Inc.	5,912,445	3,576,826	146,617	75,696	97,614,142	50,534,946
Pennsylvania-Central Airlines Corporation	4,204,280	2,511,867	334,240	191,764	73,202,517	42,599,815
Transcontinental & Western Air, Inc.	17,722,610	13,407,530	327,902	273,013	288,609,531	201,687,225
United Air Lines, Inc.	24,087,980	17,887,441	443,711	354,960	377,191,446	294,032,931
Western Air Lines, Inc.	2,458,475	1,661,447	95,489	62,441	44,898,504	26,431,867
Total	114,641,576	85,142,356	3,157,679	2,382,041	1,813,291,292	1,328,882,031
Index (1943 = 100)	134.65	100.00	132.56	100.00	136.45	100.00
Colonial Airlines, Inc.	841,864	571,456	46,473	31,058	14,410,024	9,159,014
Hawaiian Airlines, Inc.	780,426	761,224	90,898	91,139	13,056,793	12,962,987
Grand Total	116,263,866	86,475,036	3,295,050	2,504,238	1,840,758,109	1,351,004,032
Index (1943 = 100)	134.45	100.00	131.58	100.00	136.25	100.00

Operator	Express Carried (Pounds) January–October		Express Pound Miles Flown January–October		Passenger Seat Miles Flown January–October		Revenue Passenger Load Factor (Percent) January–October	
	1944	1943	1944	1943	1944	1943	1944	1943
All American Aviation, Inc.	120,898	127,724	18,119,509	17,556,819	0	0	—	—
American Airlines, Inc.	18,544,869	17,165,421	8,582,851,115	8,028,471,995	516,170,170	414,593,513	90.41	85.77
Braniff Airways, Inc.	1,046,147	1,166,389	481,724,076	589,865,117	83,520,886	59,600,573	90.97	84.05
Chicago & Southern Air Lines, Inc.	878,071	719,437	368,742,246	312,992,684	46,866,971	35,191,506	84.72	83.97
Continental Air Lines, Inc.	160,833	99,355	64,599,472	34,989,587	21,862,532	14,427,890	88.21	86.89
Delta Air Corporation	766,979	492,007	280,254,437	189,523,505	57,713,302	39,229,349	91.44	88.58
Eastern Air Lines, Inc.	4,604,615	3,666,257	2,751,342,405	2,252,349,462	245,024,257	205,755,335	86.48	87.03
Inland Air Lines, Inc.	40,128	21,275	8,088,100	5,063,658	7,818,609	5,057,410	71.90	65.80
Mid-Continent Airlines, Inc.	202,718	146,009	54,828,687	35,366,813	22,958,800	13,062,060	77.34	63.13
National Airlines, Inc.	334,006	274,868	114,964,154	79,787,525	36,010,332	21,340,195	87.47	85.96
Northeast Airlines, Inc.	104,446	94,409	20,543,216	19,331,350	17,188,358	12,092,972	61.62	61.81
Northwest Airlines, Inc.	1,835,054	1,266,404	984,605,211	834,272,164	113,681,659	60,275,992	85.87	83.84
Pennsylvania-Central Airlines Corporation	4,017,149	3,549,553	767,281,334	641,253,435	87,530,906	52,197,207	83.63	81.61
Transcontinental & Western Air, Inc.	11,047,113	8,779,740	5,819,712,197	4,976,794,380	312,720,950	225,448,658	92.29	89.46
United Air Lines, Inc.	8,921,691	8,584,742	6,777,127,314	6,486,180,963	391,666,218	320,341,546	96.30	91.79
Western Air Lines, Inc.	736,194	787,868	362,894,788	357,923,653	50,417,547	30,917,120	89.05	85.49
Total	53,360,911	46,941,458	27,457,678,261	24,861,723,110	2,011,151,497	1,509,531,326	90.16	88.03
Index (1943 = 100)	113.68	100.00	110.44	100.00	133.23	100.00	102.42	100.00
Colonial Airlines, Inc.	206,154	176,973	64,121,976	51,608,193	17,536,760	11,404,739	82.17	80.31
Hawaiian Airlines, Ltd.	5,956,333	4,899,978	917,572,019	775,823,449	13,843,824	13,817,072	94.31	93.82
Grand Total	59,523,398	52,018,409	28,439,372,256	25,689,154,752	2,042,532,081	1,534,753,137	90.12	88.03
Index (1943 = 100)	114.43	100.00	110.71	100.00	133.09	100.00	102.37	100.00

	January	February	March	April	May	June	July	August	September	October	Total
Passengers carried (unduplicated (total revenue and non-revenue)											
16 domestic airlines	242,683	221,011	251,445	272,273	311,829	326,878	371,972	400,904	394,491	433,971	3,227,457
Total airlines	255,001	231,809	262,347	283,899	324,275	340,961	387,674	419,838	409,868	450,066	3,365,738
Passenger miles flown (total revenue and non-revenue)											
16 domestic airlines	141,474,106	125,088,611	142,834,165	155,159,351	181,038,023	193,288,705	211,703,804	227,350,700	225,471,943	239,022,032	1,842,431,441
Total airlines	143,727,253	127,107,076	144,884,424	157,414,978	983,563,374	196,130,812	214,800,861	231,262,843	228,763,362	242,469,884	1,870,124,867

pared with 19,209,671 in 1941, representing an increase of over 100 per cent. The following tabulation summarizes operations since 1931.

Year	Express Pounds	Pound Miles	Revenue
1931	788,059	—	$ 61,157
1932	1,033,970	—	130,303
1933	1,510,215	—	305,645
1934	2,133,191	—	434,367
1935	3,822,397	2,145,483,711	642,471
1936	6,958,777	3,632,441,637	1,012,950
1937	7,127,369	4,318,112,453	1,272,701
1938	7,335,967	4,347,411,761	1,264,234
1939	9,514,229	5,411,227,041	1,618,184
1940	12,506,176	6,938,969,170	2,148,729
1941	19,209,671	10,485,058,005	2,996,915
1942	40,101,657	23,435,208,925	6,925,199
1943	57,543,591	30,235,849,171	8,020,448

In 1931 air express revenue accounted for .3 per cent of all airline revenue as compared with 6.8 per cent in 1943 and 1944.

FARES AND REVENUES

The average passenger fare remained in the vicinity of five cents per mile in 1944. However, American Airlines announced a reduction in passenger fares effective March 1, 1945, which would bring the mileage rate to approximately four cents, a figure which is one third of the rate of 12 cents per mile in 1929. The total passenger revenue for the first ten months of 1944 for all of the airlines was $70,800,000.

Mail and express revenue for the same period were $20,260,000 and $4,835,000 respectively. The greatest net profit after provision for income tax was made by United Air Lines with a total of $4,531,000 for ten months operations. American Airlines, Eastern Air Lines, and Transcontinental and Western Air Lines followed with nets of $3,520,000; $1,942,000, and $1,530,000 respectively, at the end of the year.

An annual summary of operating revenue of all domestic air mail carriers follows:

OPERATING REVENUE—ALL DOMESTIC AIR MAIL CARRIERS

Fiscal Year Ending June 30	Passenger	Mail	Express	Other	Total
1935	$12,275,006	$ 8,837,650	$ 507,624	$ 903,950	$ 22,524,230
1936	17,413,260	12,179,266	796,171	1,098,896	31,487,593
1937	21,508,325	13,165,179	1,198,387	1,112,639	36,984,530
1938	23,371,376	14,739,929	1,218,250	774,989	40,104,544
1939	28,299,799	17,020,169	1,437,749	913,147	47,670,864
1940	43,428,866	19,425,732	1,805,812	1,077,573	65,737,783
1941	59,430,614	20,687,220	2,434,067	1,569,599	84,121,500
1942	70,697,068	23,450,404	5,528,224	1,443,380	101,119,076
1943	79,056,748	23,347,915	8,472,463	2,949,621	113,826,747

FARES AND REVENUES

At the end of the year the Civil Air Board proposed a reduction of the mail rates of American, United, Eastern, and TWA from 60 to 32 cents per ton mile. This will undoubtedly result in a reduction in mail or passenger rates or both.

AIRPORT PROGRAM

On Jan. 1, 1944 there were 910 Class 1 airports with landing strips 1,800-2,500 feet; 774 Class 2 airports with landing strips 2,500-3,500 feet; 430 Class 3 airports with landing strips 3,500-4,500 feet, and 655 Class 4 airports with landing strips of 4,500 feet or more. The last category is adequate for 50 place aircraft and larger. In November 1944, the Civil Aeronautics Administration submitted to Congress a National Airport Plan which recommended a $1,000,000,000 program of Federal aid for 3,050 airports and 1,625 improvement projects.

Under the proposal the Federal Government would share costs with non-Federal public agencies on a basis to be set by Congress. State or local agencies would handle construction, with work subject to inspection and approval by the CAA. Any project for which Federal aid is requested would have to meet with CAA approval as to scope of development and cost, and conform to CAA standards for location, layout, grading, drainage, paving, and lighting.

Airports intended only for private flying would get 39 per cent of the total outlay, which is estimated at $1,021,567,945, not including land or buildings. Improvement or construction aimed at making possible extension of airline service, and in most cases simultaneously improving facilities for personal flying, accounts for 50.8 per cent of the expenditures, while cost of work at currently designated air carrier stops would amount to 10.2 per cent. The cost for airports, which would permit extension of air service to additional communities is about evenly divided between the places named in pending applications for certificates and those which might subsequently be considered for service. Expenditures for new airport facilities would be 58 per cent of the total while 42 per cent would go to improvement of existing airports.

Approximately 17 per cent of the funds would be spent in communities of 50,000 or more and the remaining 83 per cent in communities of less than 50,000 population. The program would be spread over a 5- to 10-year period for completion. This depends in part on the time required by the states to comply with the proposed conditions which include the establishment and empowering of an official body so equipped to conduct the state share of the program; the establishment of legislation adequate for the clearing and protection of airport approaches and such other legislation as may be necessary to vest in its political subdivisions all powers necessary to enable them to participate through the state as sponsors of airport projects; and provision for proper operation and maintenance of all airports within the state.

The report points out that only 1,629 or 53 per cent of the 3,047 counties in the United States have one or more landing areas. Under the proposed program county coverage would be increased to 88 per cent with one or more airports at 5,269 locations against 2,585 places today.

A breakdown of cost estimates by type of work shows that $525,304,322 or 51.4 per cent of the total would go for preparation of the site. Another $395,305,460 or 38.7 per cent is the estimated cost of paving. Lighting would take 5.4 per cent or $55,081,978. Radio equipment and installation would amount to $10,983,000 or 1.1 per cent. Miscellaneous items, such as approach clearing, would take $34,893,185 or 3.4 per cent.

The proposed bill obviously makes necessary and requires the creation of state aeronautics departments. This has been greeted with mixed feelings by the aviation industry since it could be the source of much confusion if no uniformity existed in the various state aviation codes. However, the participation of the states in any such airport program delineated above will require the services and advice of competent aeronautical personnel. Thirty states already have aviation commissions and the National Association of State Aviation Officials has proposed a uniform state aviation code.

AIRCRAFT PRODUCTION

Aircraft production for the year was limited entirely to military types, and approximately 100,000 military aircrafts were produced. Changing conditions of the war shifted the emphasis from one type to another, and there were several cutbacks and partial terminations of the existing contracts during the year. However, the continued resistance of the Army at the end of the year resulted in an increased order of types necessary for the continuation of the war in Europe. Generally, the emphasis was upon cargo and troop transport airplanes and the long range B-29 for the Pacific theater. As of Dec. 1, 1944, 23,391 airplanes were declared surplus and 6,239 of these had been sold. The largest number of these airplanes was in the trainer category.

POST-WAR AVIATION

The aircraft industry, including both manufacturing and transportation phases, have had little opportunity to do any extensive post-war planning, however; the year was one of predictions and surveys. For example, the number of private planes in operation within the next five or ten years after the war was estimated to be from 20,000 to 450,000. William A. M. Burden, Assistant Secretary of Commerce, predicted possible annual sales totaling $1,250,000,000 within five years after the war. This total is broken down into approximately $1,000,000 for military aircraft; $110,000,000 for air transport; $100,000,000 for personal airplanes; $400,000,000 for export; and $20,000,000 for International transportation. He, also, indicated that the private flying market will very shortly equal the transport market in importance and probably exceed it by far within the next ten years. Passenger traffic is expected to increase four-fold within the next five years. One of the other principal factors affecting post-war markets is the disposition of all surplus aircraft, facilities, equipment and materials. The latest indications are that this is being handled in such a manner that it will not have any appreciable effect upon the private airplane markets.

RESEARCH

The greatest single development of the year was the complete and satisfactory operation of several jet propelled airplanes. While the principal of jet propulsion goes back to "Newton's third law of motion," its application to aircraft has been developed only during the past few years. The Germans are reported to have two new jet airplanes already in combat, and their V-1 and V-2 flying bombs have demonstrated the possibilities of this type. At the end of the year the Eastern Coast was put on the alert for possible flying bomb attacks, and undoubtedly both the jet propelled airplane, as well as rotary propelled projectiles, will come in for a tremendous amount of continued development.

PERIODICAL PUBLICATIONS

Aviation
330 West 42nd Street, New York City.
Bus Transportation
330 West 42nd Street, New York City.
Electrical Communication
67 Broad Street, New York City.
Electrical World
330 West 42nd Street, New York City.
Journal of the Aeronautical Sciences
30 Rockefeller Plaza, New York City.
Manufacturers' News
120 South La Salle Street, Chicago.
Manufacturers Record
Candler Bldg., Baltimore, Md.
Marine Age
75 West Street, New York City.
Marine Engineering & Shipping Review
30 Church Street, New York City.
Marine Journal
5 Beekman Street, New York City.
Marine News
26 Water Street, New York City.
Marine Progress
95 Broad Street, New York City.
Mass Transportation
431 South Dearborn Street, Chicago.
National Aeronautics
Willard Hotel, Chicago.
Protectionist
38 Chauncy Street, Boston
Railway Age
30 Church Street, New York City.
S.A.E. (Journal of the Society of Automotive Engineers)
29 West 39th Street, New York City.
Shipping Digest
16 Bridge Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

MANUFACTURES

American Assn. of Creamery Butter Manufacturers, 110 N. Franklin St., Chicago, Ill.
American Automobile Assn., Pennsylvania Ave. at 17th St., Washington, D. C.
American Bottlers of Carbonated Beverages, 1128 Sixteenth St., Washington, D. C.
American Brush Manufacturers Assn., 505 Arch St., Philadelphia.
American Hardware Manufacturers Assn., 342 Madison Ave., New York City.
American Institute of Steel Construction, Inc., 101 Park Ave., New York City.
American Iron and Steel Institute, 350 Fifth Ave., New York City.
American Paper and Pulp Assn., 122 E. 42nd St., New York City.
American Petroleum Institute, 50 W. 50th St., New York City.
American Zinc Institute, 60 E. 42nd St., New York City.
Automobile Manufacturers Assn., 366 Madison Ave., New York City.
Mellon Institute of Industrial Research, 4400 Fifth Ave., Pittsburgh, Pa.
National American Wholesale Lumber Assn., 41 E. 42nd St., New York City.
National Assn. of Cotton Manufacturers, 80 Federal St., Boston, Mass.
National Assn. of Ice Industries, 1706 L St., N.W., Washington, D. C.
National Assn. of Manufacturers, 14 W. 49th St., New York City.
National Assn. of Wool Manufacturers, 80 Federal St., Boston, Mass.
National Electrical Contractors Assn., 420 Lexington Ave., New York City.
National Electrical Manufacturers Assn., 155 E. 44th St., New York City.
National Federation of Textiles Inc., 15 W. 37th St., New York City.
National Lumber Manufacturers Assn., 1337 Connecticut Ave., Washington, D. C.
National Machine Tool Builders Assn., 10525 Carnegie, Cleveland, O.
National Metal Trades Assn., 60 E. 42nd St., New York City.
Rubber Manufacturers Assn., 444 Madison Ave., New York City.
United States Brewers Assn., 21 E. 40th St., New York City.
United Typothetae of America, Tower Building, 719 Fifteenth St., N.W., Washington, D. C.

TRANSPORTATION AND COMMUNICATION

Aerial League of America, 570 Lexington Ave., New York City.
American Assn. of Railroad Superintendents, 111 Union Station, St. Louis, Mo.
American Railway Engineering Assn., 59 E. Van Buren St., Chicago, Ill.
American Road Buildings Assn., 1319 F Street, N.W., Washington, D. C.
American Steamship Owners Mutual Protection and Indemnity Assn., Inc., 25 Broad St., New York City.
American Transit Assn., 292 Madison Ave., New York City.
Associated Traffic Clubs of America, 105 W. Adams St., Chicago, Ill.
Association of American Railroads, Transportation Building, 17th and H Streets, Washington, D. C.
Cruft Laboratory, Harvard University, Cambridge, Mass.
International Amateur Radio Union, 38 La Salle Rd., West Hartford, Conn.
Maritime Assn. of the Port of New York, 80 Broad St., New York City.

NATIONAL AERONAUTIC ASSN., 1025 Connecticut Ave., Washington, D. C.

NATIONAL COUNCIL OF AMERICAN IMPORTERS, INC., 45 E. 17th St., New York City.

NATIONAL HIGHWAYS ASSN., Bass River, Cape Cod, Mass.

NATIONAL INDUSTRIAL TRAFFIC LEAGUE, 1 La Salle Street Bldg., Chicago, Ill.

NATIONAL TRAFFIC SERVICE ASSN., 204 Franklin St., New York City.

NORTH AMERICAN EXPORT GRAIN ASSN., INC., 2 Broadway, New York City.

RAILROAD OWNERS ASSN., 502 Chandler Bldg., Washington, D. C.

RAILWAY BUSINESS ASSN., 38 S. Dearborn St., Chicago, Ill.

UNITED STATES BUREAU OF STANDARDS, Washington, D. C.

UNITED STATES NAVAL RESEARCH LABORATORY, Washington, D. C.

PART FIVE

SOCIAL AIMS AND CONDITIONS

DIVISION XIV

POPULATION AND MIGRATION

POPULATION STATISTICS

By Leon E. Truesdell
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RATE OF POPULATION GROWTH

The population of the United States on July 1, 1944, including persons in the military service abroad, was estimated at 138,100,874. This figure represents an increase of 1,603,825, or 1.2 per cent, over the estimate of 136,497,049 for July 1, 1943, and an increase of 6,431,599, or 4.9 per cent, over the census population of April 1, 1940. Semi-annual estimates for the period from 1940 to 1944 are presented in Table 1.

TABLE 1

ESTIMATED POPULATION OF THE UNITED STATES, INCLUDING AND EXCLUDING ARMED FORCES OVERSEAS: 1940 TO 1944

Date	Estimated Population	Increase Since Preceding Date		Increase Since April 1, 1940	
		Number	Per Cent	Number	Per Cent
Including armed forces overseas:					
July 1, 1944	138,100,874	732,495	0.53	6,431,599	4.88
January 1, 1944	137,368,379	871,330	0.64	5,699,104	4.33
July 1, 1943	136,497,049	851,080	0.63	4,827,774	3.67
January 1, 1943	135,645,969	981,045	0.73	3,976,694	3.02
July 1, 1942	134,664,924	711,699	0.53	2,995,649	2.28
January 1, 1942	133,953,225	750,352	0.56	2,283,950	1.73
July 1, 1941	133,202,873	564,940	0.43	1,533,598	1.16
January 1, 1941	132,637,933	667,709	0.51	968,658	0.74
July 1, 1940	131,970,224	*300,949	*0.23	300,949	0.23
April 1, 1940 (Census)	131,669,275	—	—	—	—
Excluding armed forces overseas:					
January 1, 1944	133,580,283	−386,036**	−0.29**	1,911,008	1.45
July 1, 1943	133,966,319	−75,345**	−0.06**	2,297,044	1.74
January 1, 1943	134,041,664	271,164	0.20	2,372,389	1.80
July 1, 1942	133,770,500	82,057	0.06	2,101,225	1.60
January 1, 1942	133,688,443	628,398	0.47	2,019,168	1.53
July 1, 1941	133,060,045	499,202	0.38	1,390,770	1.06
January 1, 1941	132,560,843	606,699	0.46	891,568	0.68
July 1, 1940	131,954,144	*284,869	*0.22	284,869	0.22
April 1, 1940 (Census)	131,669,275	—	—	—	—

* Preceding three months only. ** A minus sign (−) denotes decrease.

The total increase in population since April 1, 1940, is made up primarily of the excess of births over deaths, which amounted to 6,036,403, though net immigration contributed 395,196. While this immigration figure represents a minor part of the total, it does, nevertheless, reflect a considerable increase in the importance of immigration as a source of population growth, as compared in particular with the decade 1930-40, during which period as a whole net immigration was a minus quantity.

The increase noted above for the year ending July 1, 1944, is less by more than 225,000 than the increase during the preceding fiscal year (1,832,125) but appreciably more than the increase during the year ending July 1, 1942 (1,462,051). The increase during any one of the last three years, however, is about twice the average annual increase during the decade preceding the 1940 Census.

Table 1 presents estimates also for the population of the United States excluding persons in military service abroad. The estimate on this basis for Jan. 1, 1944, is 133,580,283, which is less by 461,381 than the corresponding estimate for Jan. 1, 1943. This decrease is a measure of the extent to which the departures of men during the year for military service abroad exceeded the excess of births over deaths plus net immigration.

TABLE 2

BIRTHS AND DEATHS IN THE REGISTRATION STATES: 1920 TO 1943

(The birth registration states included 59.7 per cent of the total population of the country in 1920 and the death registration states 80.9 per cent; in 1933 both areas had been extended to include the entire country.)

Year	Births Registered			Deaths Registered			United States Totals, Partly Estimated for Years Prior to 1933 (thousands)		
	Number of Births	Rate per 1,000 of Population		Number of Deaths	Rate per 1,000 of Population		Births	Deaths	Excess of Births Over Deaths
		Annual	3-Year Moving Average		Annual	3-Year Moving Average			
1943	2,935,171	21.9	—	1,459,998	10.9	—	2,935	1,460	1,475
1942	2,808,996	21.0	20.6	1,385,187	10.4	10.6	2,809	1,385	1,424
1941	2,513,427	18.9	19.3	1,397,642	10.5	10.5	2,513	1,398	1,115
1940	2,360,399	17.9	18.0	1,417,269	10.7	10.6	2,360	1,417	943
1939	2,265,588	17.3	17.6	1,387,897	10.6	10.6	2,266	1,388	878
1938	2,286,962	17.6	17.3	1,381,391	10.6	10.8	2,287	1,381	906
1937	2,203,337	17.1	17.1	1,450,427	11.3	11.2	2,203	1,450	753
1936	2,144,790	16.7	16.9	1,479,228	11.6	11.3	2,145	1,479	666
1935	2,155,105	16.9	16.9	1,392,752	10.9	11.2	2,155	1,393	762
1934	2,167,636	17.2	16.9	1,396,903	11.1	10.9	2,168	1,397	771
1933	2,081,232	16.6	17.1	1,342,106	10.7	10.9	2,081	1,342	739
1932	2,074,042	17.4	17.3	1,293,269	10.9	10.9	2,178	1,358	820
1931	2,112,760	18.0	18.1	1,307,273	11.1	11.1	2,231	1,372	859
1930	2,203,958	18.9	18.6	1,327,240	11.3	11.4	2,327	1,393	934
1929	2,169,920	18.8	19.1	1,369,757	11.9	11.7	2,291	1,446	845
1928	2,233,149	19.7	19.7	1,361,987	12.0	11.7	2,368	1,444	924
1927	2,137,836	20.5	20.2	1,211,627	11.3	11.8	2,439	1,347	1,092
1926	1,856,068	20.5	20.8	1,257,256	12.1	11.7	2,410	1,422	988
1925	1,878,880	21.3	21.3	1,191,809	11.7	11.8	2,465	1,353	1,112
1924	1,930,614	22.2	21.9	1,151,076	11.6	11.8	2,532	1,323	1,209
1923	1,792,646	22.1	22.2	1,174,065	12.1	11.8	2,475	1,358	1,117
1922	1,774,911	22.3	22.9	1,083,952	11.7	11.8	2,455	1,287	1,168
1921	1,714,261	24.2	23.4	1,009,673	11.5	12.1	2,628	1,248	1,380
1920	1,508,874	23.7	—	1,118,070	13.0	—	2,526	1,383	1,143

BIRTH AND DEATH RATES

The recent acceleration in the rate of population growth has resulted mainly from increased birth rates in the years since 1940. During the calendar year 1943 there were 3,159,000 births (including estimates for under-registration), as compared with 3,020,000 in 1942. This increase in the number of births is attributed, first, to business prosperity induced by defense activities and to anticipation of conscription, and second, to the effects of actual war conditions. The number of deaths in 1943 was only a little larger than the number in 1942; in fact, there has been little change in the death rate during the past 10 years.

The number of births during the year 1944, on the basis of preliminary returns, seems likely to be smaller by at least 150,000 than the number in 1943, with the number of deaths showing little change. Since October, 1943, the number of births reported in each month has been lower than the number reported for the corresponding month a year earlier. From this it may be assumed that the wartime peak in the birth rate was reached in the latter part of 1943 and that further declines in the number of births may be expected. Current conditions, therefore, seem to be less favorable to population increase than those which obtained during 1942 and 1943; and with several million men in the armed forces overseas, it seems likely that the birth rate may decline rather rapidly, though the monthly preliminary figures do not so far indicate any acceleration in the rate of decline. The civilian death rate will probably not increase to any extent in the next year or so, but military mortality is certain to become an important factor. Population growth is, therefore, likely to be less and less rapid as the war goes on.

The most significant data on births and deaths which need to be considered in any study of trends in population growth are presented in Table 2, which gives for each year from 1920 to 1943 the number of registered births and deaths, the annual rate per 1,000 of the population, and a three-year moving average of these rates. Estimated totals for the United States are also given (in thousands) for the years 1920 to 1943, and in the final column the excess of births over deaths or the amount of the recorded natural increase in the population.

CIVILIAN POPULATION BY STATES

The usual methods by which postcensal estimates of population are made for the United States as a whole can not be used for estimating the population of states or cities because they afford no means of measuring internal migration. It has been possible, however, to make estimates of the civilian population, on the basis of registration for ration books. It is necessary to limit such estimates to the civilian population because the regulations requiring the use of ration books apply only to the civilian population (including the very small numbers of persons in military service who live with their families or otherwise "off post"). The estimate of civilian population for the United States as a whole is, of course, materially smaller than the estimate of population excluding military forces abroad, presented in Table 1, since it excludes also persons in military service still in the United States. The most recent of these estimates is that based on registration for Ration Book Four, as of Nov. 1, 1943. The estimated civilian population on that date was 127,228,683, a figure less by 4,173,302, or 3.2 per cent, than the civilian population on April 1, 1940. These estimates are presented by states in Table 3.

In spite of the fact that, taking the country as a whole, there was a considerable decrease in civilian population between 1940 and 1943, the table shows fairly large increases for certain states, these being the states in which there has been marked expansion in war activities. The largest of these is an increase of more than 1,000,000, or nearly 15 per cent, in the State of California, though large increases are shown also for the other

XIV. POPULATION AND MIGRATION

TABLE 3

ESTIMATED CIVILIAN POPULATION BY STATES: APRIL 1, 1940, AND NOVEMBER 1, 1943

State	Estimated Civilian Population		Increase (+) or Decrease (−), 1940 to 1943		Net Gain (+) or Loss (−) through Civilian Migration
	November 1, 1943	April 1, 1940	Number	Per Cent	
United States....	127,228,683	131,401,985	−4,173,302	−3.2	+305,112
New England:					
Maine..........	782,205	845,181	−62,976	−7.5	−30,395
New Hampshire....	453,136	490,638	−37,502	−7.6	−11,995
Vermont..........	316,019	358,856	−42,837	−11.9	−31,407
Massachusetts.....	4,092,195	4,313,838	−221,643	−5.1	+37,032
Rhode Island......	694,112	707,920	−13,808	−2.0	+29,478
Connecticut........	1,746,901	1,706,886	+40,015	+2.3	+127,422
Middle Atlantic:					
New York.........	12,440,005	13,462,641	−1,022,636	−7.6	−222,970
New Jersey........	4,077,434	4,156,642	−79,208	−1.9	+184,882
Pennsylvania......	9,266,313	9,895,938	−629,624	−6.4	−112,382
East North Central:					
Ohio..............	6,822,031	6,905,092	−83,061	−1.2	+230,966
Indiana...........	3,379,052	3,427,394	−48,342	−1.4	+78,977
Illinois............	7,559,576	7,887,327	−327,751	−4.2	+68,562
Michigan..........	5,373,718	5,252,922	+120,796	+2.3	+280,812
Wisconsin.........	2,944,171	3,137,189	−193,018	−6.2	−102,854
West North Central:					
Minnesota.........	2,523,681	2,791,933	−268,252	−9.6	−191,964
Iowa..............	2,275,086	2,537,605	−262,519	−10.3	−192,584
Missouri...........	3,522,109	3,783,760	−261,651	−6.9	−116,916
North Dakota......	536,229	641,875	−105,646	−16.5	−100,430
South Dakota......	544,493	642,866	−98,373	−15.3	−89,113
Nebraska..........	1,175,336	1,314,255	−138,919	−10.6	−96,294
Kansas............	1,677,503	1,796,988	−119,485	−6.6	−54,139
South Atlantic:					
Delaware..........	273,370	266,128	+7,242	+2.7	+19,383
Maryland.........	1,981,664	1,813,132	+168,532	+9.3	+235,379
Dist. of Columbia..	816,982	643,513	+162,469	+25.2	+205,251
Virginia...........	2,767,921	2,649,949	+117,972	+4.5	+154,699
West Virginia......	1,731,171	1,901,919	−170,748	−9.0	−139,632
North Carolina.....	3,344,348	3,566,206	−221,858	−6.2	−262,833
South Carolina.....	1,788,337	1,886,013	−97,676	−5.2	−137,928
Georgia...........	2,974,868	3,099,527	−124,659	−4.0	−130,793
Florida............	2,011,363	1,890,919	+120,444	+6.4	+186,744
East South Central:					
Kentucky.........	2,546,941	2,840,944	−294,003	−10.3	−262,676
Tennessee.........	2,816,399	2,915,536	−99,137	−3.4	−70,843
Alabama..........	2,715,919	2,821,651	−105,732	−3.7	−116,366
Mississippi.........	1,994,967	2,183,405	−188,438	−8.6	−194,194
West South Central:					
Arkansas..........	1,734,440	1,948,054	−213,614	−11.0	−225,372
Louisiana..........	2,314,941	2,359,410	−44,469	−1.9	−19,033
Oklahoma.........	1,987,539	2,332,849	−345,310	−14.8	−303,542
Texas.............	6,255,691	6,389,690	−133,999	−2.1	−15,700
Mountain:					
Montana..........	469,916	559,381	−89,465	−16.0	−69,012
Idaho.............	472,925	524,873	−51,948	−9.9	−44,889
Wyoming..........	235,684	249,873	−14,189	−5.7	−8,688
Colorado..........	1,066,418	1,121,534	−55,116	−4.9	−22,759
New Mexico.......	489,863	531,785	−41,922	−7.9	−44,362
Arizona...........	569,150	497,883	+71,267	+14.3	+76,651
Utah..............	583,560	550,062	+33,498	+6.1	+32,397
Nevada...........	130,557	110,124	+20,433	+18.6	+26,882
Pacific:					
Washington	1,903,649	1,732,365	+171,284	+9.9	+244,931
Oregon............	1,171,801	1,088,476	+83,325	+7.7	+138,158
California.........	7,876,994	6,858,039	+1,018,955	+14.9	+1,368,571

Pacific Coast States, for some of the Mountain States, and for Florida, Michigan, Maryland, Virginia, and the District of Columbia. On the other hand, considerable numbers of states show losses far greater than the 3.2 per cent average, such states including most of the West North Central group and even some Eastern industrial states, such as New York and Pennsylvania.

On the basis of these estimates of population, taken in connection with the records of military inductions and computations of natural increase for the several states, estimates of net gain or loss through civilian migration have been computed, the procedure being to add the natural increase to the 1940 population, subtract military inductions, and compare the results with the estimated population. If the population estimated on the basis of ration book registrations is greater than the result of these computations, in-migration is assumed, and conversely, if it is smaller, out-migration to the extent of the difference is assumed. These estimates of net gain or loss through migration are presented in the last column of Table 3. In general, the classification of states on the basis of these figures is similar to the classification based on absolute increases or decreases in civilian population. It may be noted, however, that some states, for example, New Jersey and Ohio, which show a considerable loss in civilian population, nevertheless received considerable contributions in the way of in-migrant population from other states—contributions which simply made smaller their population decrease.

Since these estimates represent only net gains or losses through migration, they do not afford any direct information as to the whole number of persons who have migrated from one place to another in connection with the building up of the present war-industry areas. It may safely be assumed, however, that the amount of population movement during the three and one-half years from April, 1940, to November, 1943, was at least twice as great as the movement during the five-year period 1935 to 1940. Between 1940 and 1943, 30 states suffered a net loss in population through the interchange of civilian migrants to other states, and the total of their net losses amounted to 3,400,000 civilians. Between 1935 and 1940 the corresponding total for the 28 states that lost through migration in that period was about 1,400,000.

The sum of the net losses for the states having a net out-migration of civilians is, of course, much less than the total number of civilians who have migrated across state lines because it does not include the large numbers of people who must have moved into those states which lost more migrants than they gained and takes no account of back-and-forth movements between the two dates. Furthermore, the estimates of interstate movement take no account of the movement from one place to another within the same state, which may have been greater than the movement between states. Even without allowance for the movements of the armed forces, which are not included in the estimates of net civilian migration, it is safe to say that there has been far more movement of people from one place to another in the United States since 1940 than in any other period of the same length in the history of the country.

EMPLOYMENT

On the basis of data obtained each month from a selected sample of households scattered over the entire country, there have been published every month since March, 1940, estimates of the number of persons in the civilian labor force, the number employed, and the number unemployed. These figures are summarized for July of each year since 1940 and by months for 1944 in Table 4.

With respect to the sample-based statistics presented in Tables 4, 5, 8, 9, and 10 it may be said in general that the totals and the larger subtotals in any given table are subject to a fairly small error from this source, but that the smaller and more

TABLE 4

ESTIMATES OF EMPLOYMENT STATUS OF THE CIVILIAN POPULATION OF THE UNITED STATES: 1940 TO 1944

Date	Civilian Population 14 Years Old and Over	Civilian Labor Force		Employed	Unemployed	
		Number	Per Cent of Population		Number	Per Cent of Labor Force
July, 1944	92,980,000	55,000,000	59.2	54,000,000	1,000,000	1.8
July, 1943	94,360,000	56,040,000	59.4	54,750,000	1,290,000	2.3
July, 1942	98,680,000	56,770,000	57.5	54.340,000	2,430,000	4.3
July, 1941	99,760,000	56,550,000	56.7	51,310,000	5,240,000	9.3
July, 1940	99,950,000	56,420,000	56.4	48,010,000	8,410,000	14.9
1944 By Months						
December						
November	92,950,000	52,210,000	56.2	51,530,000	680,000	1.3
October	92,960,000	52,870,000	56.9	52,240,000	630,000	1.2
September	92,910,000	53,030,000	57.1	52,250,000	780,000	1.5
August	92,930,000	54,010,000	58.1	53,170,000	840,000	1.6
July	92,980,000	55,000,000	59.2	54,000,000	1,000,000	1.8
June	93,090,000	54,220,000	58.2	53,220,000	1,000,000	1.8
May	93,220,000	52,840,000	56.7	51,960,000	880,000	1.7
April	93,360,000	52,060,000	55.8	51,290,000	770,000	1.5
March	93,540,000	51,360,000	54.9	50,490,000	870,000	1.7
February	93,560,000	51,150,000	54.7	50,260,000	890,000	1.7
January	93,660,000	51,430,000	54.9	50,350,000	1,080,000	2.1

detailed sub-totals are subject to a possibility of error which increases with the decrease in the size of the figures in question.

This table indicates that, in spite of a very considerable reduction in the civilian population of working age, the labor force has been very nearly maintained through increasing the percentage of population in the labor force; and the number of employed persons showed an actual increase up to 1943 by reason of the practical disappearance of unemployment, with a rather small decline between 1943 and 1944. The male labor force taken alone declined from 42,570,000 in July of 1940, to 35,890,000 in July of 1944, this decrease being largely offset by an increase in the female labor force from 13,850,000 in 1940 to 19,110,000 in 1944. The monthly figures for the year 1944 reflect the seasonal variation in the labor force, with the maximum in July, which is a season of maximum employment in agriculture and also a season in which large numbers of students are at work or seeking work for the summer vacation. The distribution, by age and sex, of the civilian labor force as estimated for November, 1944, is presented in Table 5.

In November of 1940, 6,570,000 persons, or 12.4 per cent of the labor force, were unemployed (including those on public emergency work); in November of 1944 only 680,000 persons, or 1.3 per cent of the labor force, were estimated to be unemployed. It seems likely that the number of unemployed may never be reduced much below this figure, since at any given time there are bound to be a considerable number of persons in the process of going from one job to another—the so-called frictional unemployment. The employment percentages shown in Table 5 indicate the fullest employment for persons 25 years old or over, both males and females, and the largest margin of unemployment for the youngest age group, which always includes a considerable number of young men and women seeking their first job.

STATE OF BIRTH

Estimates of the net movement of population during a limited period, 1940 to 1943, are presented in Table 3. A different index of the

TABLE 5

ESTIMATED CIVILIAN EMPLOYMENT, BY SEX AND AGE: NOVEMBER, 1944

Sex and Age (years)	Civilian Labor Force	Employed	
		Number	Per Cent
TOTAL			
14 and over...	52,210,000	51,530,000	98.7
14–19......	4,590,000	4,470,000	97.4
20–24......	4,600,000	4,490,000	97.6
25–34......	10,220,000	10,090,000	98.7
35–44......	12,550,000	12,440,000	99.1
45–54......	10,590,000	10,480,000	99.0
55–64......	6,770,000	6,710,000	99.1
65 and over.	2,890,000	2,850,000	98.6
Median age...	40.3	40.4	—
MALE			
14 and over...	34,060,000	33,710,000	99.0
14–19......	2,240,000	2,190,000	97.8
20–24......	1,390,000	1,370,000	98.6
25–34......	6,180,000	6,120,000	99.0
35–44......	8,660,000	8,600,000	99.3
45–54......	7,810,000	7,730,000	99.0
55–64......	5,370,000	5,320,000	99.1
65 and over.	2,410,000	2,380,000	98.8
Median age...	43.3	43.3	—
FEMALE			
14 and over...	18,150,000	17,820,000	98.2
14–19......	2,350,000	2,280,000	97.0
20–24......	3,210,000	3,120,000	97.2
25–34......	4,040,000	3,970,000	98.3
35–44......	3,890,000	3,840,000	98.7
45–54......	2,780,000	2,750,000	98.9
55–64......	1,400,000	1,390,000	99.3
65 and over.	480,000	470,000	97.9
Median age...	33.7	33.8	—

movement of population within the United States is afforded by the 1940 Census figures on state of birth of the native population. These figures are presented in Table 6, which shows, first, the number of persons living in each state in 1940 who were born in other states, second, the number born in each state who were living in other states in 1940, and finally, the net gain or loss through interstate movement of population, which last represents the difference on the census date between the total number of surviving native persons who had moved out of the specified state since they were born and the total number of surviving native persons who had moved into the specified state since they were born. The small numbers of native persons born outside continental United States (that is, in the Territories and possessions or at sea) and of persons for whom state of birth was not reported are omitted from the table.

Those states which have had a rapid growth in recent years might be expected to have a larger percentage of their population born in other states. This explains the relatively high percentages shown for the Pacific Coast States (57.1 per cent for California) and Florida. Other states with more than 50 per cent of their population born in other states include Idaho, Wyoming, and Arizona. On the other hand, states with recent rapid growth in population are likely to have fewer of their natives living in other states. Thus, only 7.9 per cent of the native population born in California was found living in other states in 1940. Other states with low percentages of their natives living in other states were New York, with 14.4 per cent, Texas, with 15.1 per cent, Michigan, with 15.2 per cent, and Florida, with 15.5 per cent.

The state-of-birth figures, which are published in the census report in terms of individual states, may be summarized in various ways to give significant figures indicating general trends of population movement. For example, 4,651,399 persons born east of the Mississippi River were found in 1940 living in states west of the Mississippi, while only 1,910,482 persons born west of the Mississippi River were found living in the East. The difference between these two figures, which may be termed the net gain of the West over the East, amounted in 1940 to 2,740,917. This figure is smaller than the corresponding figure for any earlier census since 1870 and is not much more than half the corresponding figure shown by the returns of the 1910 Census, which represented the maximum. Incidentally, the percentages of the eastern-born population living in the West and of the western-born population living in the East were practically identical in

TABLE 6

STATE OF BIRTH AND STATE OF RESIDENCE OF THE NATIVE POPULATION OF THE UNITED STATES: 1940

State	Living in Specified State			Born in Specified State			Net Gain (+) or Loss (−) Through Interstate Movement
	Total	Born in Other States		Total	Living in Other States		
		Number	Per Cent		Number	Per Cent	
United States	119,515,740	26,905,986	22.5	119,515,740	26,905,986	22.5	—
New England:							
Maine	757,475	76,607	10.1	880,216	199,348	22.6	−122,741
New Hampshire	420,073	116,593	27.8	444,171	140,691	31.7	−24,098
Vermont	324,477	59,543	18.4	415,221	150,287	36.2	−90,744
Massachusetts	3,438,211	486,655	14.2	3,569,556	618,000	17.3	−131,345
Rhode Island	572,052	122,547	21.4	570,412	120,907	21.2	+1,640
Connecticut	1,371,501	338,052	24.6	1,284,480	251,031	19.5	+87,021
Middle Atlantic:							
New York	10,424,237	1,643,011	15.8	10,258,418	1,477,192	14.4	+165,819
New Jersey	3,442,039	1,049,484	30.5	2,874,093	481,538	16.8	+567,946
Pennsylvania	8,904,568	940,925	10.6	9,760,527	1,796,884	18.4	−855,959
East North Central:							
Ohio	6,368,964	1,348,052	21.2	6,148,889	1,127,977	18.3	+220,075
Indiana	3,309,947	712,438	21.5	3,458,564	861,055	24.9	−148,617
Illinois	6,903,476	1,570,268	22.7	6,991,297	1,658,089	23.7	−87,821
Michigan	4,552,287	1,169,845	25.7	3,986,807	604,365	15.2	+565,480
Wisconsin	2,842,420	388,135	13.7	3,139,983	685,698	21.8	−297,563
West North Central:							
Minnesota	2,486,655	534,484	21.5	2,587,104	634,933	24.5	−100,449
Iowa	2,413,120	451,792	18.7	3,044,997	1,083,669	35.6	−631,877
Missouri	3,660,153	888,053	24.3	4,154,126	1,382,026	33.3	−493,973
North Dakota	565,092	140,603	24.9	682,795	258,306	37.8	−117,703
South Dakota	597,000	182,434	30.6	683,049	268,483	39.3	−86,049
Nebraska	1,231,181	310,317	25.2	1,496,036	575,172	38.4	−264,855
Kansas	1,745,069	544,797	31.2	2,057,307	857,035	41.7	−312,238
South Atlantic:							
Delaware	250,825	79,606	31.7	237,358	66,139	27.9	+13,467
Maryland	1,730,175	434,805	25.1	1,627,716	332,346	20.4	+102,459
Dist. of Columbia	622,698	402,633	64.7	347,601	127,536	36.7	+275,097
Virginia	2,648,297	436,092	16.5	3,021,138	808,933	26.8	−372,841
West Virginia	1,856,613	331,111	17.8	1,952,875	427,373	21.9	−96,262
North Carolina	3,556,035	343,594	9.7	3,823,537	611,096	16.0	−267,502
South Carolina	1,892,646	165,378	8.7	2,266,030	538,762	23.8	−373,384
Georgia	3,106,477	333,177	10.7	3,698,183	924,883	25.0	−591,706
Florida	1,809,430	869,551	48.1	1,112,093	172,214	15.5	+697,337
East South Central:							
Kentucky	2,825,782	292,662	10.4	3,479,789	946,669	27.2	−654,007
Tennessee	2,899,062	457,036	15.8	3,289,749	847,723	25.8	−390,687
Alabama	2,817,227	265,902	9.4	3,305,311	753,986	22.8	−488,084
Mississippi	2,174,349	197,213	9.1	2,618,246	641,110	24.5	−443,897
West South Central:							
Arkansas	1,938,441	432,315	22.3	2,286,874	780,748	34.1	−348,433
Louisiana	2,332,116	301,320	12.9	2,435,189	404,393	16.6	−103,073
Oklahoma	2,307,838	948,860	41.1	2,049,185	690,207	33.7	+258,653
Texas	6,166,438	1,129,888	18.3	5,929,746	893,196	15.1	+236,692
Mountain:							
Montana	500,144	231,471	46.3	422,312	153,639	36.4	+77,832
Idaho	496,838	251,971	50.7	388,342	143,475	36.9	+108,496
Wyoming	232,754	138,289	59.4	167,123	72,658	43.5	+65,631
Colorado	1,046,758	522,341	49.9	824,373	299,956	36.4	+222,385
New Mexico	514,531	192,395	37.4	445,596	123,460	27.7	+68,935
Arizona	457,566	238,298	52.1	312,242	92,974	29.8	+145,324
Utah	515,029	81,551	15.8	606,716	173,238	28.6	−91,687
Nevada	98,057	62,795	64.0	66,912	31,650	47.3	+31,145
Pacific:							
Washington	1,506,469	790,321	52.5	937,059	220,911	23.6	+569,410
Oregon	991,809	538,608	54.3	630,596	177,395	28.1	+361,213
California	5,891,339	3,362,168	57.1	2,745,801	216,630	7.9	+3,145,538

1940, being 5.5. Likewise may be computed a net figure for population movement between the North and the South. In 1940, 2,065,624 northern-born persons were living in the South and 3,456,979 southern-born persons, 40 per cent of them Negroes, were living in the North. The difference between these two figures indicates a net gain for the North amounting to 1,391,355.

TABLE 7

NUMBER OF MARRIAGES IN THE UNITED STATES: 1924 TO 1943

(Figures are estimates except for the years 1924 to 1932 and 1937 to 1940.)

Year	Number of Marriages	Rate per 1,000 of the Population
1943..........	1,577,000	11.8
1942..........	1,758,000	13.1
1941..........	1,679,000	12.6
1940..........	1,565,000	11.9
1939..........	1,375,000	10.5
1938..........	1,319,000	10.2
1937..........	1,438,000	11.2
1936..........	1,369,000	10.7
1935..........	1,327,000	10.4
1934..........	1,302,000	10.3
1933..........	1,098,000	8.7
1932..........	981,903	7.9
1931..........	1,060,914	8.6
1930..........	1,126,856	9.2
1929..........	1,232,559	10.1
1928..........	1,182,497	9.8
1927..........	1,201,053	10.1
1926..........	1,202,574	10.2
1925..........	1,188,334	10.3
1924..........	1,184,574	10.4

MARRIAGES

The year 1942 marked the end of the series of unusual annual increases in the marriage rate which began in 1940. The marriage rate rose from 10.5 per 1,000 of the population in 1939 to an all-time high of 13.1 in 1942, but by 1943 it had dropped back to 11.8, or about the same level as in 1940. The increases between 1939 and 1942 reflect, in the main, the psychological and economic effects of the war. The decline in the marriage rate in 1943 likewise resulted from wartime conditions, since during this year large numbers of eligible single men went overseas in the armed forces. It is probable, too, that the abnormally large numbers of marriages in 1940, 1941, and 1942 helped to produce an effective deficit in 1943 in the number of marriageable persons. A summary of the marriage data for the last 20 years is presented in Table 7.

TABLE 8

ESTIMATED NUMBER OF FAMILIES IN THE UNITED STATES WITH ONE OR MORE CHILDREN OF SPECIFIED AGES: 1940

Age of Children (years)	Number of Families	Per Cent of All Families
Families.........	34,948,666	100.0
Families having 1 or more children—		
Under 6.........	8,452,604	24.2
5 to 9..........	8,757,528	25.1
6 to 13..........	11,317,854	32.4
6 to 15..........	12,602,270	36.1
6 to 17..........	13,771,157	39.4
7 to 13..........	10,304,527	29.5
7 to 15..........	11,793,313	33.7
7 to 17..........	13,040,297	37.3
10 to 13.........	7,279,656	20.8
10 to 14.........	8,250,509	23.6
10 to 15.........	9,180,879	26.3
10 to 17.........	10,900,187	31.2
10 to 20.........	12,457,151	35.6
14 and 15.......	4,395,012	12.6
14 to 17.........	7,101,338	20.3
14 to 20.........	9,485,511	27.1
15 to 19.........	7,817,780	22.4
16 and 17.......	4,304,370	12.3
18 to 20.........	5,295,653	15.2
Under 21........	19,469,710	55.7

FAMILIES BY NUMBER OF CHILDREN

About one-fourth of all the families in the United States in 1940, namely, 8,452,604 families, had at least one child of pre-school age, that is, under six years old. About one-third of the families, namely, 11,317,854, had one or more children of elementary school age, that is, six to 13 years old. About one-fifth of the families had one or more children of high school age, that is, 14 to 17 years old, but less than one-sixth of the families had children 18 to 20 years old living in the home. This number is relatively small because at ages over 18 children are beginning to marry and establish separate families or to leave home in quest of employment. In Table 8 are presented estimates of the number of families with children in other age groups for which information is frequently requested.

PER CAPITA FAMILY INCOME

The economic handicap of a large family is recognized as one of the major reasons for the long-term decline in the birth rate in the United States and elsewhere. The size of this handicap, particularly at the time when the family head is a young man, is indicated by an analysis of 1940 census statistics presented in Table 9.

TABLE 9

MEDIAN WAGE OR SALARY INCOME PER PERSON IN 1939, BY SIZE OF FAMILY, FOR THE UNITED STATES

(Data based on returns for wage-earner families without other income.)

Size of Family	Total	Families Having Male Head					Families Having Female Head
		Married, Wife Present				Other Marital Status	
		Head Under 35 Years Old	Head 35 to 44 Years Old	Head 45 to 54 Years Old	Head 55 Years Old and Over		
All families....	$310	$304	$302	$332	$332	$376	$238
Families of—							
1 person..........	487	—	—	—	—	591	377
2 persons.........	591	660	759	681	428	483	350
3 persons.........	439	397	535	539	427	421	278
4 persons.........	349	288	399	433	388	337	222
5 persons.........	269	202	287	334	331	280	190
6 persons.........	208	147	207	256	275	227	162
7 or more persons.	137	98	123	167	194	157	112

In a typical American wage earner's family of six persons, headed by a married man under 35 years of age, the median wage or salary income in 1939 was only $147 per family member, while for a family of two, consisting of a married man under 35 and his wife, the median per capita income was $660, or four times as much. It is true that the per capita family income is only an approximate measure of economic well-being because it does not take into account the difference in living costs per family member in large families as compared with smaller ones. The differences in economic status of the various family types are so great, however, that even an approximate measure serves to indicate the relationships involved.

CONGESTED AREA CENSUSES

A series of rather extensive local censuses was undertaken by the Bureau of the Census in the first half of the year 1944, covering ten so-called congested areas, that is, areas in which war production had developed to such an extent as to bring with it serious congestion of the population. These censuses (except for the Muskegon area) were taken on a sample basis but the sample was adequate to form a satisfactory basis for the rather extensive classifications presented in the detailed reports. The ten congested areas, each comprising one or more counties, were as follows:

Detroit-Willow Run—Macomb, Oakland, Washtenaw, and Wayne Counties, Mich.

Muskegon—Muskegon County, Mich.

Hampton Roads—Elizabeth City, Norfolk, Princess Anne, and Warwick Counties and Hampton, Newport News, Norfolk, Portsmouth, and South Norfolk cities, Va.

Charleston—Charleston County, S. C.
Mobile—Mobile County, Ala.
Puget Sound—King, Kitsap, Pierce, and Snohomish Counties, Wash.
Portland-Vancouver — Clackamas, Multnomah, and Washington Counties, Ore., and Clark County, Wash.
San Francisco Bay—Alameda, Contra Costa, Marin, San Francisco, San Mateo, and Solano Counties, Calif.
Los Angeles—Los Angeles and Orange Counties, Calif.
San Diego—San Diego County, Calif.

A brief summary of the results in terms of resident civilian population is presented in Table 10.

TABLE 10

RESIDENT CIVILIAN POPULATION OF TEN CONGESTED AREAS: 1944 AND 1940

Area	1944 (Civilian Population)	1940 (Census Population)	Increase 1940 to 1944	
			Number	Per Cent
Total, 10 areas	10,930,535	9,148,174	1,782,361	19.5
Detroit-Willow Run area, June, 1944	2,658,700	2,458,139	200,561	8.2
Muskegon area, June, 1944	108,079	94,501	13,578	14.4
Hampton Roads area, May, 1944	496,790	343,423	153,367	44.7
Charleston (S. C.) area, March, 1944	167,195	121,105	46,090	38.1
Mobile area, March, 1944	233,891	141,974	91,917	64.7
Puget Sound area, June, 1944	991,908	820,202	171,706	20.9
Portland-Vancouver area, May, 1944	660,583	501,275	159,308	31.8
San Francisco Bay area, April, 1944	1,840,545	1,461,804	378,741	25.9
Los Angeles area, April, 1944	3,356,969	2,916,403	440,566	15.1
San Diego area, March, 1944	415,875	289,348	126,527	43.7

In the Mobile area, which showed the greatest increase on a percentage basis, the civilian population in 1944 was 64.7 per cent larger than the census population of 1940 (which at that time was practically identical with civilian population); the increase in the Hampton Roads area amounted to 44.7 per cent, and in the San Diego area, 43.7 per cent. The smallest percentage increase was in the Detroit-Willow Run area, where the relative increase in population was only 8.2 per cent. This increase, in absolute numbers, however, amounted to more than 200,000, and the Los Angeles area, with a relative increase of only 15.1 per cent, actually gained 440,000 inhabitants. The exceptional nature of these gains is more readily apparent when it is considered that the civilian population of the country as a whole decreased something like 4 per cent between 1940 and 1944 as a result of inductions for military service.

SOURCES OF ADDITIONAL DATA

Additional information on some of the topics presented above is contained in Census reports and releases as follows:

Estimated civilian population by counties as well as by states appears in Series P-44, No. 3, and further detail with respect to the estimated migration based on these estimates in Series P-44, No. 17.

Current estimates of labor force, employment, and unemployment are contained in the "Monthly Report on the Labor Force."

Statistics of family wage or salary income under a wide variety of classifications are presented in the report "Population—Family Wage or Salary Income in 1939."

Detailed statistics on state of birth, including figures for individual states of residence by individual states of birth, are contained in the report "Population—State of Birth of the Native Population."

A report, entitled "Characteristics of the Population, Labor Force, Families, and Housing," is issued in Series CA-3 for each one of the ten congested areas for which summary data are presented in Table 10.

A circular describing both the reports of the 1940 Census and the current material which has been published since the Census may be obtained upon request from the Bureau of the Census, Washington 25, D. C.

RACE CONDITIONS IN THE UNITED STATES

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IMMIGRATION ADMISSIONS

During the fiscal year ended June 30, 1944, only 28,551 immigrant aliens were admitted to this country, according to the last annual report of the Immigration and Naturalization Service. This number, being higher than that for 1943 (23,725), represents the first reversal in the downward trend of admissions since the outbreak of the war in 1939.

During the past 20 years the annual numbers of immigrant aliens admitted to this country have been successively affected by the stringent immigration laws of 1924, the severer checks imposed during the depression, the influx of refugees from Nazi-dominated countries, and finally, the difficulties of travel imposed by the outbreak of the war. In 1924, there were 706,896 immigrant aliens admitted to this country. The number declined to 294,314 in 1925, to 97,139 in 1931, and to 23,068 in 1933, the lowest number recorded for over a century.

With the rise of Nazism and the consequent fleeing of refugees, the number of immigrant aliens admitted to this country climbed gradually to a peak of 82,998 in 1939. After 1939, the admissions decreased gradually each successive year through 1943, when the number of admissions was only slightly higher than that for 1933. With the upturn in 1944, the number of immigrant alien admissions was approximately the same as that for the year 1942 (28,781). The future course of the trend, of course, will depend greatly on the duration of the war and the nature of our post-war immigration policies.

GEOGRAPHIC ORIGINS

The decrease in the total flow of immigration to this country since the outbreak of the war has been accompanied by a marked change of origins from Europe to the Western Hemisphere. In 1939, European countries were given as the last permanent residence by 76 per cent of the immigrant aliens admitted to this country, and countries of the Western Hemisphere were reported by only 21 per cent. By 1943, virtually these same percentages were reversed, *i.e.,* 21 per cent reported European countries and 77 per cent reported countries of the Western Hemisphere. In 1944, only about 16 per cent of the immigrant aliens reported European countries and 81 per cent reported countries of the Western Hemisphere.

To take specific countries, 33,515 or 40 per cent of the total immigrant aliens admitted in 1939 reported Germany as the last permanent residence. Only a negligible number (238) gave this report in 1944. This was a natural consequence of the war. The proportion of immigrant aliens reporting Canada as the country of last permanent residence was only 13 per cent in 1939, 40 per cent in 1943, and 34 per cent in 1944. In absolute numbers, however, there was a decline from 10,501 in 1939 to 9,571 in 1943 and a slight increase to 9,821 in 1944. There has been a consistent proportionate and absolute increase of immigrant aliens reporting Mexico as the country of last permanent residence. In 1939, only 3 per cent of the immigrant aliens reported Mexico. This proportion increased to 18 per cent in 1943 and to 23 per cent in 1944. The absolute numbers were 2,640 in 1939, 4,172 in 1943, and 6,598 in 1944.

The above data concerning last permanent residence exaggerate somewhat the declining proportionate importance of European origins since 1939. Actually, some of the immigrants reporting Western Hemisphere countries as last permanent residence were secondary migrants from Europe. Nevertheless, the distributions by country of birth give essentially the same story. In 1939, 82 per cent of the immigrant aliens were natives of Europe, and 16 per cent were natives of the Western Hemisphere. In 1943, the respective proportions were 38 and 60; in 1944 they were 30 and 66. In 1939, only 10 per cent of the immigrant aliens were natives of Canada, as compared with 30 per cent in 1943 and 25 per cent in 1944. Natives of Mexico comprised 3 per cent in 1939, 17 per cent in 1943, and 22 per cent in 1944. It should be emphasized, too, that the above figures relate to Mexican immigrant aliens entering the country through regular immigration channels for declared permanent residence. This immigration is quite apart from the special importation of Mexicans since 1943 for temporary residence as farm laborers, track workers, etc., discussed in a later section.

HEBREW IMMIGRANTS

The flight of refugees is reflected in the proportion of Hebrews among our immigrants since Hitler's accession to power in 1933. Only 10 per cent of the immigrant aliens admitted to this country during the fiscal year ended June 30, 1933 were Hebrews. The proportion increased gradually until it reached a peak of 52 per cent in 1939 and 1940 and then declined to 37 per cent in 1942 and 20 per cent in 1943. The absolute numbers for 1939 and 1940 were 43,450 and 36,945, respectively. They were only 10,608 in 1942 and 4,705 in 1943. During the total ten-year period represented by fiscal year reports, 1934-1943 inclusive, 165,756 Hebrews were admitted as immigrant aliens; they comprised 35 per cent of the total 476,930 immigrant aliens admitted during that period.

The above data are based upon annual reports of the Immigration and Naturalization Service which, prior to 1944, included "Hebrew" as one of the component groups of the classification of immigrants by "Race or People." The recent discontinuance of the "Hebrew" category was apparently prompted in part by recognition that Hebrews are a religious rather than a racial group. There has been divided opinion among Jewish groups as to the desirability of having Hebrews identified in the immigration statistics.

STATE OF INTENDED RESIDENCE

With the reduction in the importance of immigrants of European origin has come not only a reduction in the percentage of Hebrews but also a reduction in percentage of persons giving New York State as the intended residence. In 1939, 51 per cent made this declaration, but this proportion dropped to 43 in 1942, to 31 in 1943, and to 27 per cent in 1944. With the ascendance of proportionate importance of immigrants from Mexico has come a rise in proportion of immigrants declaring California and Texas as future residences. In 1939, only 8 per cent of the immigrants declared California and 2 per cent declared Texas to be states of intended future residence. In 1943, these percentages had increased to 15 and 8, respectively, and in 1944 to 19 and 11. Six per cent of the immigrants (including many Canadians) listed Michigan as the intended residence. Apart from the above four states, no single state was listed as the state of intended residence by as many as 5 per cent of the immigrants in 1944. On a broad regional basis 55 per cent of the immigrants of 1944 designated northern states as future residences, 19 per cent southern states, and 26 per cent western states.

DEPARTURES AND DEPORTATIONS

The number of emigrant aliens during 1944 was 5,669. This number, being somewhat higher than that for the preceding year (5,107), represents the first reversal of a consistent decline in the annual number of emigrant aliens since 1939. Of the total emigrant alien departures, 41 per cent were destined for Great Britain, 31 per cent for Mexico, and 8 per cent for Canada.

The number of deportations during 1944 was 7,179. Over two-thirds of these (69 per cent) were destined for Mexico. The outstanding causes of deportation were those of entering the country without valid visa, previously debarred or deported, and remaining longer than authorized.

NATURALIZATION

The fiscal year ended June 30, 1944 marked an all time high in the number of non-citizens naturalized in this country according to the last annual report of the Immigration and Naturalization Service. The total number of naturalizations within the United States was 435,483 of which 392,766 were civilians and 42,717 were members of the armed forces. In addition, 6,496 in the armed forces were naturalized in theaters of war abroad, bringing the total civilian and military naturalizations to 441,979.

In general, whereas the outbreak of war in 1939 served to reduce the volume of immigration, it stimulated the naturalization of resident aliens. During 1939, only 188,813 certificates of naturalization were issued. The number was 235,260 in 1940; 277,294 in 1941; 270,364 in 1942; and 318,933 in 1943. The year 1944, however, will probably remain a peak year for some time to come as it represents in part an elimination of large arrearages and the more recent immigration has been low in volume and increasingly of Canadian and Mexican origin. Actually, the number of declarations of intention to file petitions dropped to the lowest point on record in 1944, when the number was only 42,368 as compared with 115,664 in 1943.

CHARACTERISTICS OF NON-WHITES BY RACE

In 1944, the Bureau of the Census published a report *Characteristics of the Nonwhite Population by Race,* based upon the 1940 Census. Tables 1 and 2, adapted from this and other Census sources, summarize some of these characteristics, with comparative data for whites. As a whole, the nonwhites differ from the whites by being less urban, by having a lower ratio of males to females, by being younger, by being less educated, and by having higher proportions engaged in agricultural and laboring occupations.

Occupationally, only 2.7 per cent of the nonwhite as compared with 8 per cent of the white employed persons 14 years of age and over were in professional or semi-professional groups in 1940; only 3.4 per cent of the nonwhites, but 27.7 per cent of the whites were in proprietary and clerical classes. Again, 13.5 per cent of the nonwhites and nearly one-third (31.6 per cent) of the whites were skilled craftsmen and semi-skilled operatives. On the other hand, practically one-third (32.8 per cent) of the nonwhites as compared with only 16.7 per cent of the white employed persons were in agricultural work. Similarly, approximately one-third (33.7 per cent) of the nonwhites but only one-tenth (9.9 per cent) of the whites were domestic and other service workers. Fourteen per cent of the nonwhites and 6 per cent of the whites were unskilled laborers other than agricultural and domestic service.

Since native Negroes constituted almost 95 per cent of the nonwhites in 1940, the foregoing statements regarding nonwhites hold generally true for native Negroes. There are, however, wide internal differences between the constituent minority groups. Thus, the proportion urban ranges from 8

TABLE 1

CHARACTERISTICS OF POPULATION OF THE UNITED STATES, BY RACE AND NATIVITY: 1940

(Adapted from U. S. Census Reports)[1]

Race and Nativity	Total Number	Per Cent Urban	Males Per 100 Females	Median Age	Median Years of School Completed Persons 25 and Over
Total Population	131,669,275	56.5	100.7	29.0	8.4
Total White	118,214,870	57.5	101.2	29.5	8.7
Native	106,795,732	55.1	100.1	26.9	8.8
Foreign Born	11,419,138	80.0	111.1	51.0	7.3
Total Nonwhite	13,454,405	47.9	96.7	25.2	5.8
Negro	12,865,518	48.6	95.0	25.3	5.7
Native	12,781,577	48.3	94.9	25.1	5.7
Foreign Born	83,941	92.7	112.8	44.0	7.6
Indian	333,969	8.1	105.5	20.1	5.7
Chinese	77,504	90.6	285.3	32.8	5.5
Native	40,262	91.3	176.5	19.4	6.8
Foreign Born	37,242	89.9	570.4	40.6	5.0
Japanese	126,947	54.9	130.9	23.6	8.7
Native	79,642	53.2	113.4	17.1	12.2
Foreign Born	47,305	57.6	168.0	49.7	8.3
Filipino	45,563	60.6	680.2	42.9	7.4
Hindu	2,405	38.7	392.8	40.7	3.7
Others	2,499	78.0	172.8	28.3	8.5

per cent among American Indians to 91 among Chinese and to 93 among foreign-born Negroes. The masculinity ratio extended from 95 among native Negroes to 570 among foreign-born Chinese and 680 among Filipinos (chiefly foreign-born). Among racial groups regardless of nativity, the median age as of last birthday extended from 20.1 among Indians to 40.7 among Hindus and 42.9 among Filipinos. Like fôreign-born whites, the foreign-born nonwhites are rapidly passing into older age groups. There are, as expected, wide differences between the native and foreign-born Asiatics in this country with respect to age. Among the Chinese the median age was 19.4 years for the natives and 40.6 for the foreign-born. Among the Japanese, the respective medians by nativity were 17.1 and 49.7.

The Japanese natives of this country stand out as the nonwhite group with highest educational attainment. Among the native Japanese 25 years of age and over, the median year of school completed was 12.2. This is even higher than that (8.8) for native whites. The favorable standing of the native Japanese is doubtless owing in part to their residence in the progressive state of California, but mainly to their relatively young age composition. The native Japanese 25 years of age and over are much more heavily concentrated in the younger age brackets than are the native whites, and hence in larger proportions have had the advantage of relatively recent advances in public education in this country. Nevertheless, there is no denying that the Japanese stand out as relatively high in educational attainment. Even the foreign-born Japanese, despite their relatively older ages, exhibit a median year of school completed of 8.3 years. (In this instance, however, the median may be spuriously raised as a result of selective factors in the pre-war policy of restricting immigration from Japan in large measure to college students.)

The occupational distribution of employed native Negroes 14 years of age and over is about the same as that

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[1] Date for whites from *Sixteenth Census of the United States*, 1940. Volumes II and IV. Data for non-whites from special census report, *Characteristics of the Nonwhite Population by Race.*

TABLE 2

PERCENTAGE OF EMPLOYED PERSONS, 14 YEARS OLD AND OVER, IN MAJOR OCCUPATION GROUPS BY RACE AND NATIVITY: 1940

(Computed from U. S. Census Data)[1]

Race and Nativity	Total Employed (Exc. on Emergency Work)	Per Cent by Occupation Group										
		Professional Workers	Semi-Professional Workers	Farmers and Farm Managers	Proprietors, Managers, and Officials, (Exc. Farm)	Clerical, Sales, and Kindred Workers	Craftsmen, Foremen, and Kindred Workers	Operatives, and Kindred Workers	Domestic Service Workers	Service Workers (Exc. Domestic)	Farm Laborers (Wage Workers) and Farm Foremen	Farm Laborers (Unpaid Family Workers)	Laborers (Exc. Farm)
Total Population	45,166,083	6.4	1.0	11.5	8.4	16.8	11.3	18.4	4.7	7.7	4.3	2.6	6.8
Total White....	40,495,089	6.9	1.1	11.1	9.2	18.5	12.3	19.3	2.7	7.2	3.5	2.1	6.0
Total Nonwhite.	4,670,994	2.5	0.2	15.1	1.4	2.0	3.0	10.5	21.9	11.8	11.1	6.6	14.0
Negro........	4,479,068	2.5	0.2	15.0	1.1	1.8	3.0	10.4	22.5	11.7	10.9	6.7	14.3
Native.....	4,434,399	2.5	0.2	15.1	1.0	1.7	2.9	10.4	22.5	11.6	10.9	6.7	14.3
For. Born ..	44,669	3.7	0.6	1.0	4.2	5.8	7.0	17.4	21.8	24.8	2.7	0.1	10.9
Indian.......	67,178	2.2	0.7	37.0	1.4	2.7	4.8	13.9	3.9	4.3	9.4	10.3	9.5
Chinese......	36,992	1.8	1.0	1.3	20.4	11.4	1.2	22.5	6.1	30.1	2.5	0.1	1.7
Native.....	12,933	2.7	1.5	1.3	18.9	14.7	1.9	18.6	6.7	29.7	1.6	0.1	2.2
For. Born ..	24,059	1.3	0.8	1.2	21.2	9.5	0.9	24.5	5.8	30.3	3.0	0.1	1.4
Japanese.....	54,899	2.6	0.6	14.9	11.5	11.0	2.2	7.6	7.8	7.8	15.8	9.6	8.5
Native.....	22,125	2.6	0.6	10.0	6.0	17.9	1.9	8.7	10.2	5.8	14.2	15.5	6.7
For. Born ..	32,774	2.7	0.6	18.1	15.2	6.5	2.4	6.9	6.3	9.1	16.9	5.7	9.8
Filipino......	30,739	1.2	0.3	1.6	1.2	2.1	1.2	5.8	7.1	28.7	47.0	0.1	3.7
Hindu.......	1,177	4.4	2.0	15.8	4.3	3.8	2.2	4.3	2.3	9.0	46.1	0.1	5.8
Others.......	941	10.9	2.0	3.7	13.2	11.8	3.1	12.4	7.5	16.8	12.4	1.8	4.4

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[1] Computed from Sixteenth Census of the United States, 1940: *Population*, Vol. II (Part 1) and from special report, *Population Characteristics of the Nonwhite Population by Race.*

of nonwhites. Being more urban and somewhat better educated than native Negroes, the foreign-born Negroes are represented in slightly higher proportions in professional, proprietary, clerical, skilled, and semi-skilled groups.

The American Indians, being largely residents of rural reservations, stand highest in proportion of farmers and farm managers, but in regard to total proportion in agriculture, they are slightly outranked by the small group of Hindus. The Filipinos are conspicuous for having a high proportion classified as wage earners in farm labor and in non-domestic service. The Chinese rank higher than any other nonwhite group in proportions classified as proprietors, operatives, and non-domestic service workers. These three categories collectively include nearly three-fourths of the employed Chinese 14 years of age and over. The ownership of and employment in small laundries doubtless account for most of this situation. The Japanese are relatively heavily represented in agricultural work, but the native Japanese (being comparatively young and educated) outrank any other nonwhite group in the proportions classified as clerical, sales, and kindred workers.

REPRODUCTION RATES BY COLOR

In 1944 the Bureau of the Census released another report of interest to students of racial problems, "Population—Differential Fertility 1940 and 1910—Standardized Fertility Rates and Reproduction Rates." This report indicates a net reproduction rate of 957 (daughters per 1,000 women) for whites and 1,137 for nonwhites for the period 1935 to 1940 (adjusted for underenumeration of children). The net reproduction rate expresses the number of daughters that would be born per 1,000 females starting life together if, as the original cohort passed through life, they were subjected to existing age-specific rates of fertility and mortality. A rate of 1,000 means an average of one daughter per woman in the original cohort and signifies that the population would ultimately just replace itself if the existing age-specific fertility and mortality rates continued in operation. A rate of 1,500 would correspondingly indicate a potential increase of 50 per cent per generation and a rate of 500 a potential decrease of 50 per cent per generation.

Since a rate of 1,000 is necessary for permanent population replacement, continuation of fertility and mortality conditions of whites for that period would ultimately result in a decrease of 4.3 per cent per generation, whereas those for nonwhites would ultimately yield an increase of 13.7 per cent per generation. The higher average rate for nonwhites, however, is owing to higher proportions in rural areas where fertility rates are high. In urban areas the net reproduction rates were 731 for whites and 702 for nonwhites, meaning that, if there were no further migration from rural to urban areas and if existing age-specific fertility and mortality rates of urban areas continued, the urban white population would eventually decrease 26.9 per cent per generation and the nonwhites 29.8 per cent. Among rural nonfarm populations the net reproduction rates were 1,146 for whites and 1,210 for nonwhites, or 14.6 per cent above replacement requirements for the former, and 21 per cent above for the latter. Among rural farm populations, the net reproduction rates for whites and nonwhites were 1,572 and 2,058, respectively, signifying that, if there were no further movement from farms to cities and if rural farm rates of fertility and mortality continued indefinitely, the white rural farm population would eventually pile up at the rate of 57.2 per cent per generation and the nonwhite rural farm population would more than double each generation.

ESTIMATES OF FUTURE POPULATION BY COLOR

Although the net reproduction rates are useful for interpreting the potential force of fertility and mortality schedules, one must keep in mind that the underlying assumptions of fixed vital rates and nonmigratory populations are purely hypothetical. The age-specific vital rates will certainly change, and people will continue to move from farms to cities. Thompson and Whelpton of the Scripps Foundation for Research in Population Problems prepared a report published in 1944 by the National Resources Planning Board, showing estimates of future population based upon varying assumptions regarding trends of fertility and mortality. Under assumptions of medium declines in fertility and mortality and no net gains from immigration from abroad, the white population, numbering 118,200,000 in 1940, will reach a peak of 140,200,000 in 1980 and then decline slowly to 136,700,000 by the year 2000. The colored population, on the other hand, will continue to increase, although at a progressively slower rate, throughout the period. Numbering 13,500,000 in 1940, the colored population will be about 21,900,000 in 2000. According to these estimates, the nonwhites in 2000 will comprise 13.8 per cent of the total population, instead of 10.2 per cent as in 1940. For both the white and colored, the slowing down of population growth will be accompanied by increasing proportions in the older ages, but the colored population exhibits a temporal lag in this respect. The medium projections indicate that the percentage age distribution of the colored population in 1980 will be approximately that of the whites in 1940.

IMPORTED FOREIGN WORKERS

During 1944, the United States continued the importation of foreign agricultural and nonagricultural laborers from certain Western Hemisphere countries in order to relieve the labor shortage created by the enrollment of men in the armed services and the expansion of war industries. These laborers are granted admission for a temporary stay without being obliged to meet the usual immigration requirements. Such admission was legally provided by Public Law 45, approved April 29, 1943, and under the terms of the Ninth Proviso of Section 3 of the Immigration Act of 1917. On Feb. 14, 1944, Congress re-enacted the provisions of Public Law 45 in Public Law 229 and further allowed the employment of these imported laborers in packing, canning, or other processing of perishable or seasonable agricultural products, when so authorized by the Administrator of the War Food Administration.

The importation of these workers is carried out according to bilateral agreements entered into by the United States Government, and the respective governments of Mexico, Jamaica, the Bahamas, Barbados, and Newfoundland. These agreements clearly designate the rights and obligations of the two governments and of the employers and employees. They protect the workers by guarantees as to wage rates, length of employment, and living and working conditions, and provide for the repatriation of the migrants at the close of their labor contracts.

According to the last annual report of the Immigration and Naturalization Service, 97,011 agricultural laborers were imported during the fiscal year, 1943-1944: 74,632 Mexicans; 15,673 Jamaicans; 4,762 Bahamians; 1,036 Newfoundlanders; and 908 from the Barbados Island. The number of these imported workers has varied from month to month, as contracts have expired and demands for labor have changed. On Oct. 31, there were about 74,000 foreign laborers employed in or available for agricultural work; of these, nearly 53,000 had come from Mexico (*Farm Labor,* Bureau of Agricultural Economics, U. S. Department of Agriculture, Nov. 13, 1944). The majority of the Mexican agricultural workers were employed in the western states, particularly in California. In November, over 81 per cent were in California and 98 per cent were in the Pacific and Mountain states. More than half of the Jamaicans were in Florida, as were 95 per cent of the Bahamians. The Barbadians were employed principally in Wisconsin and the Newfoundlanders in New England and the Middle Atlantic states. The number of these agricultural laborers substantially declined during the closing months of the year because workers were repatriated at the expiration of their labor contracts and recruitment of farm workers has been discontinued for the present, both in Mexico and in the other countries.

The importation of railroad track workers from Mexico has apparently increased steadily under the terms of the agreement signed in April, 1943, by our Government and Mexico. Since the inception of the program, about 72,000 workers have been brought into this country for work on the railroads. "Contracts for some 19,000 workers have been renewed and about 36,000 contracts remained in effect at the end of October. . . . Recruitment of 3,000 workers was scheduled for November, and statements received from railroads late in October indicated that approximately 4,000 would be needed in December" (Railroad Retirement Board, *The Monthly Review,* December, 1944). Contracts usually run for 180 days and may be renewed with the consent of the worker and the knowledge of the Mexican Government, which decides upon the number and type of workers who may leave Mexico. At present, the Mexican Government has placed a ceiling of 50,000 on the number of railroad workers who may be employed in the United States at any one time.

In addition to laborers in agriculture and on the railroads, a small number have been admitted to work in the timber and lumber industries. These have been principally Canadian woodsmen who have been brought in under the skilled contract labor provision of the 1917 Immigration Act.

EFFECTS OF THE REPEAL OF THE CHINESE EXCLUSION ACTS

The act of Congress repealing the Chinese Exclusion Acts was approved by President Roosevelt on Dec. 17, 1943, and became Public Law 199 (Seventy-eighth Congress). Enactment of this measure placed the Chinese on a quota basis of immigration and made them eligible for citizenship. The new Chinese quota of 105 immigrants annually was proclaimed by the President on Feb. 8, 1944. The Immigration and Naturalization Service reports that during the fiscal year 1943-1944 "just 19 Chinese were admitted under the new quota." Difficulties of travel and delays in the implementation of the act during the war undoubtedly restricted the number of Chinese admitted.

Although under the new act, Chinese permanently residing in the United States are now eligible for citizenship, few civilian Chinese were naturalized during 1944. The Immigration and Naturalization Service reports that in the fiscal year ended June 30, 1944, citizenship was granted to 654 aliens giving China as the country of former allegiance. Of these, 631 were members of the American Armed Forces and thereby entitled to a simplified naturalization procedure. In addition to the 654 naturalized in this country, 77 Chinese in the military service of the United States were naturalized overseas.

The first year following the enactment of Public Law 199 has brought no marked change in the number of Chinese entering the country or acquiring citizenship. According to former Immigration Commissioner Harrison, "This repeal [of the Chinese Exclusion Acts] . . . has had an almost negligible effect statistically. The change in attitude on the part of Chinese persons and the good will engendered, however, is evident, particularly in the West."

STATUS OF THE JAPANESE IN THE UNITED STATES

On Dec. 17, 1944, the Army announced that it would lift the ban against the presence of persons of Japanese ancestry in the Pacific Coast area on Jan. 2, 1945, thereby ending the nearly three-year mass exclusion of Japanese from their homes in that region. The exclusion has been rescinded because, according to Western Commander Major General Pratt, "Existing military necessity does not justify control over American citizens who have been determined not to be potentially dangerous" (*The New York Times,* Dec. 18, 1944, p. 1).

The new proclamation does not mean that all the 110,000 or so evacuated persons will return to the West Coast. Many individuals will probably continue to be banned from the area by the Army because of doubt as to their complete loyalty to the United States. Such exclusions, however, will be on an individual and not on a group basis. In addition, there are some 18,700 at the Tule Lake (California) center for disloyal evacuees and for those who have expressed a desire to be returned to Japan. Already more than 32,000 loyal Japanese-Americans have left relocation centers for jobs and homes in the East and Middle West under the program of resettlement that the War Relocation Authority carried out during the year. Among the 15,000 Japanese serving in the armed forces of the United States, about 2,500 inductees and 1,200 volunteers have come from the relocation centers. To date, around 61,000 Japanese still remain in the eight camps operated by the War Relocation Authority. It is impossible to estimate how many of these will elect to return to their former homes. Many may prefer to stay in the relocation centers until the close of the war, in view of the frequently expressed opposition of West Coast publications, organizations, and communities.

The process of resettlement will undoubtedly be slow and difficult. It will be carried out under the direction of the Department of the Interior, since, by a Presidential proclamation on Feb. 16, 1944, the War Relocation Authority was transferred to that Department from the Office for Emergency Management. It is hoped that the evacuees who prefer to return to the West Coast will do so gradually, so that the difficulties of adjustment may be kept to a minimum. Those who prefer to locate in other parts of the country will be given every assistance by the WRA in accordance with the present policy of resettlement. The WRA hopes that, during the next year, all the relocation centers may be closed except that in Tule Lake, which will probably be taken over by the Department of Justice.

The speed and success with which the evacuees are returned to normal life will depend in great measure upon the attitude of communities in which the Japanese locate. Although in the past year opposition to the Japanese in this country has found frequent expression, there has probably been a lessening of prejudice in most parts of the country.

The day after the Army ended the mass exclusion of Japanese from the West Coast, the United States Supreme Court upheld, by a vote of 6 to 3, the constitutionality of the wartime regulation by which the Japanese had been evacuated from that area in 1942. The majority ruling declared the order constitutional in view of the fact that "under conditions of modern warfare . . . the power to protect must be commensurate with the threatened danger." The minority dissented on the ground that the order had violated the Constitution.

At the same time, the Supreme Court ruled unanimously that Japanese-Americans of unquestioned loyalty to the United States could not be detained in relocation centers. The decision was handed down in the test case brought by Miss Mitsuye Endo, who was supported by the Northern California branch of the Civil Liberties Union. Miss Endo petitioned for release from a relocation center, charging that the War Relocation Authority, after granting her permission to leave, continued to hold her until she could prove that she was self-supporting. The decision of the Supreme Court held that Miss Endo must be released since her detention was not related to espionage or sabotage, and since her loyalty to this country was not in doubt.

RACE RELATIONS—PHILADELPHIA STRIKE

In the field of race relations, 1944 was a more encouraging year than that of 1943, for there were no real race riots, in spite of the longer strain of wartime hardships and tensions. Although the year was not without minor clashes between Negroes and whites, the only serious disturbance was that of the transit strike in Philadelphia. During the first week in August, bus and street car transportation in Philadelphia was practically at a standstill because of a strike called by the transit workers in protest against the upgrading of eight colored workers to operating positions. On the third day of the strike, the Army took over the transportation lines under a Presidential order recommended by the National War Labor Board. The Army ordered the strikers to return to work and the Federal Bureau of Investigation sought to determine the liability of the strike leaders under the War Labor Disputes Act. Although most of the strikers had returned to work by the end of the first week, the Army continued its supervision until Aug. 18. The strike effectively tied up all transportation, especially for the first few days, and interrupted the prosecution of numerous war industries, but there was no loss of life and by the middle of the month the situation was normal, with the Negroes retaining their operating jobs.

The strike also apparently involved a clash between two unions. The Transport Workers Union of America (C. I. O.) had won an election as the bargaining agency for the workers, defeating the Philadelphia Rapid Transit Employees Union. The Transit Workers Union was negotiating a new contract with the company to replace the expired contract with the Philadelphia Rapid Transit Employees Union. Unlike the terms of the old contract, the new one contained a provision for nondiscrimination. The C. I. O. Union disclaimed all responsibility for the strike and charged the leaders of the rival union with starting the trouble.

It would seem that the Government's prompt and firm handling of the strike prevented similar disturbances from arising in other cities. In Los Angeles the city's street railway company accepted an order of the Fair Employment Practice Committee and installed twelve Negro motormen, and in Chicago, the number of Negro operators on rapid transit lines was increased without friction (*A Monthly Summary of Events and Trends in Race Relations,* Fisk University, August-September, 1944, p. 3. For a more complete discussion of the Philadelphia Strike, see "Another Philadelphia Story," by Reginald A. Johnson and Julius A. Thomas, *Opportunity,* Vol. 22, No. 4, October and December, 1944, pp. 152-155).

THE NEGRO VOTE

The Presidential election emphasized the potential strength of the Negro vote. The platforms of both major parties included statements on the subject of racial discrimination. The Republican platform stated: "We unreservedly condemn the injection into American life of appeals to racial or religious prejudice. We pledge an immediate Congressional inquiry to ascertain the extent to which mistreatment, segregation and discrimination against Negroes who are in our Armed Forces are impairing morale and efficiency and the adoption of corrective legislation. We pledge the establishment by Federal legislation of a permanent Fair Employment Practice Commission." The plank of the Democrats read: "We believe that racial and religious minorities have the right to live, develop and vote equally with all citizens and share the rights that are guaranteed by our constitution. Congress should exert its full constitutional powers to protect those rights."

INTER-RACIAL PLANNING

Partly as a result of the serious race riots in 1943, the past year witnessed the formation of numerous inter-racial committees and an increase of inter-racial programs among already established agencies and organizations. The Social Science Institute of Fisk University reports that in the 12 months following the Detroit riot of June, 1943, there were in existence at least 224 committees dealing with the problem of racial minorities. Among the 166 of these from which the Institute received information, 13 were national organizations, two were regional, 16 state, and 135 local. This list included 32 official action committees, or those appointed by mayors, city councils, boards of supervisors, governors, or state legislatures.

An interesting development in the field of race relations is the National Urban League's community relations project to further inter-racial social planning in war industry communities. It is to be financed by the General Education Board and carried out in cooperation with such agencies as the Young Women's Christian Association, the National Committee on Housing, the National Federation of Settlements, Child Welfare League of America, and Family Welfare Association of America. According to the National Urban League, the project is "aimed at developing and testing techniques to be applied to relieving the racial tensions increasingly manifested in war industry communities, and promoting fuller participation by Negroes in the economic and social life of their communities." In each city selected for the demonstration the project will be directed by a professional staff made up of specialists in housing, economics, health, and similar fields.

In North Carolina, the school year 1944-1945 has brought a significant development in the field of education. Beginning July 1, 1944, the salaries paid Negro and white public school teachers were placed on an equal basis. For the last ten years, North Carolina has been gradually eliminating the differential in salaries for colored and white teachers, and during each year since 1938 the Legislature has appropriated around $250,000 for this purpose. This year the State Board of Education has appropriated sufficient funds to wipe out the differential entirely.

THE NEGRO IN WAR INDUSTRY

The extent of the increase in employment of Negroes in war industries from September, 1942 to March, 1944 is indicated by figures from the War Manpower Commission (Employment Service 270 Reports). The total workers in establishments covered (representing about two-thirds of total workers in all war industries) increased from 11,274,950 to 14,443,079 during these 18 months. Nonwhite workers in these establishments rose from 518,645 to 1,054,390. Thus, whereas the total workers increased only 28 per cent, the nonwhite workers more than doubled. In 1942, nonwhite workers comprised 4.6 per cent of the total workers in the war establishments covered; in 1944, they comprised 7.3 per cent.

On the basis of the above figures and other data, the National Urban League estimated early in 1944 that at least 1,500,000 Negroes were engaged in war production and other essential war employment. The corresponding figure for white and colored combined was 20,000,000.

The recent advances can be described in terms of new occupational opportunities as well as in numbers employed. The National Urban League's study of 300 war plants employing Negro workers in 120 cities and towns of 25 states indicated that over three-fourths (247) used Negroes as semi-skilled operatives and over half (154) used Negroes as skilled workers. Most of the plants employing Negroes as skilled workers were located in Eastern and Middle West cities.

It is not possible to foretell the extent to which the Negro's wartime gains in employment and occupational status will carry over into the postwar period. Of the 300 firms reporting to the National Urban League, 253 reported that on the basis of current experience with Negroes, they would continue to employ them after the war. Writing in the (August, 1944), *International Labour Review,* Robert C. Weaver stated that "just as the Negro emerged from the first world war with a foothold in unskilled jobs in heavy industry, so he will probably emerge from the present war with a foothold in semi-skilled jobs in many industries and with a place as a worker in a wide variety of industries and plants. But this development has been and is spotty. The relaxation of the colour bar in southern industry has been slow." The post-war industrial status of the Negro, of course, will depend in large part on the general levels of employment. The Negro will doubtless fare well if the goal of full employment of 60,000,000 workers is realized. He may again suffer earliest and longest in a period of general unemployment and depression. Even under the latter condition, however, he probably will retain at least some of his wartime gains in occupational openings.

COMMITTEE ON FAIR EMPLOYMENT PRACTICE

As described in THE AMERICAN YEAR BOOK, 1943, at the end of 1943 the President was confronted with the refusal of certain railroad companies and railroad unions to obey the directive of the Committee on Fair Employment Practice. On January 3, 1944, the President appointed a commission to investigate this case and submit a report. This Commission consists of Judge Walter P. Stacy of the North Carolina Supreme Court, Judge William H. Holly of the Federal District Court of Chicago, and Mayor Frank J. Lausche of Cleveland, O.

The F. E. P. C. continued to make the news in other ways during the year. On Jan. 11, 1944, the Select Committee to Investigate Acts of Executive Agencies beyond the Scope of their Authority, under the chairmanship of Representative Smith of Virginia, held its initial hearing on the activities of the F. E. P. C. On the other hand, on Jan. 20-21, a large conference of representatives from nearly 50 organizations throughout the country was convened in Washington to advance the cause of a permanent F. E. P. C. Bills were introduced in both the House and the Senate later in the year and were referred to appropriate committees. Both the House and the Senate (the former by narrow margin), approved the requested $500,000 for the F. E. P. C. as part of the War Agencies Bill, and the organization still functions as a temporary war agency.

THE NEGRO IN THE ARMED FORCES

Recent releases from the War Department show that at the present time more than 700,000 Negroes are serving in all branches of the United States Army, about 60 per cent of them overseas. Of this number, 5,804 are commissioned officers. In summarizing the accomplishments of the Negro soldiers during 1944, the War Department noted that they have participated in the fighting in every combat zone. "On lonely outposts in coldest Alaska, on out-of-the-way Pacific Islands, in the thick of D-day on the Normandy beachheads, with MacArthur on his return to the Philippines, in the heart of the China-Burma-India campaign, they battled side by side with white men and, proportionately won as many unit citations and individual recognition for gallantry" (*The New York Times*, Jan. 1, 1945, p. 23).

The number of Negroes in the Navy has been steadily increasing. As of Sept., 1944, there were 23 officers and 142,628 enlisted men in the Navy; 15,771 enlisted men in the Marine Corps; and four officers and 3,657 enlisted men in the Coast Guard. "Negroes are serving with the fleet and at advance bases in all parts of the world. They hold a wide variety of ratings, including radioman, radarman, electrician's mate, machinist's mate, quartermaster, coxswain, signalman, storekeeper, yeoman, and motor machinist's mate" (*Opportunity*, Vol. 23, No. 1, Winter Issue, 1945, p. 37).

There are about 4,000 Negro WACS on active duty in the Army, serving at approximately 20 Army camps in the United States. Negro Army nurses are serving both at home and overseas. Moreover, the Navy has announced that Negro women will now be recruited for the WAVES.

During the year there were two interesting developments in the elimination of segregation in the Army. In September the War Department officially ended discrimination in all Army post exchanges, theaters, and busses, in the South as well as in the North and overseas. The second development concerned the plan to establish separate Negro rest centers for Negro soldiers returning from overseas. Originally the Army planned to take over the two largest Negro hotels, one in New York's crowded Harlem area and the other in Chicago's South Side. At the same time the white soldiers were to be sent to hotels in such resorts as Lake Placid, Miami Beach, and Hot Springs. Protests from leading Negro citizens caused the President to intervene. The Army now intends to send the Negroes to designated northern hotels, where they will not be segregated from white soldiers.

LEGISLATION AFFECTING MINORITY GROUPS

Although numerous bills dealing with minority groups were introduced in the Seventy-eighth Congress during 1944, little definite action was taken in regard to these measures. As in the preceding year, several bills were proposed abolishing the racial barriers to immigration or naturalization, or both, for Indian nationals, Koreans, and Filipinos. Likewise, there were various bills dealing with the treatment of Japanese and American citizens of Japanese ancestry. One of these (H. R. 4103), was passed by both the House and the Senate. It provides that United States citizens, by making a formal written statement, may renounce their American citizenship while still in this country under certain circumstances. This bill replaced several others with more drastic proposals of deporting all persons of Japanese ancestry whose loyalty was in question.

Much of the agitation for these bills arose from answers to the so-called "loyalty question" contained in a questionnaire given to Japanese evacuees by the War Relocation Authority. Several thousand internees had given equivocal answers to the question as to their loyalty to the United States. Although theoretically an equivocal answer would denote disloyalty, observers of the conditions under which the questionnaire was given contended that many of these answers probably had no such meaning. The evacuees were living in a state of tension and confusion and many thought they would be separated from their families if they gave an affirmative answer. During the hearings on these bills, Attorney General Biddle stated that the War Relocation Authority questionnaire was confusing and that three or four thousand of the evacuees had wanted to change their answers later. The bill as passed does not include the provision contained in some other bills which would make it possible to deport all persons who had not clearly stated their loyalty to this country at the time the questionnaire was given in the relocation centers. (For a discussion of the hearings and the bill, see Common Council for American Unity, *Interpreter Releases,* Vol. 21, No. 6 and No. 12, Feb. 10 and March 10, 1944.)

As in previous years, there were also proposals to simplify naturalization proceedings for foreign-born parents of members of the armed forces and to eliminate the educational requirements for naturalization for certain elderly foreign-born persons.

There were several proposals to prohibit discrimination in employment because of race, color, or creed. Most of these centered around the creation of a permanent Fair Employment Practice Commission, discussed in a preceding section of this report. Other bills provided for investigation of race relations and racial discrimination in war industries and in the armed forces.

A bill to repeal the poll tax appeared again, was passed by the House, and was again held up in the Senate. This time the opposing Southern Senators did not filibuster but proposed to use the technique of introducing numerous amendments, each of which would require lengthy debate.

Mention should be made of the United States Supreme Court decision that Negroes can not legally be barred from voting in the Texas Democratic primaries. This ruling was handed down in April and caused much opposition in Southern states, where the Democratic primary is practically equivalent to an election. The reaction of many Texans to the decree was expressed by Representative Nat Patton, who remarked that Texans would "find some way to work out a Democratic primary for white folks" (*The New York Times*, April 4, 1944, p. 15).

AMERICAN INDIAN AFFAIRS

By D'Arcy McNickle

Office of Indian Affairs, Department of the Interior

ADMINISTRATION

The Indians of the United States are citizens by virtue of the Act of Congress of June 2, 1924. It does not follow that Indians vote in all states, since voting requirements are determined by state law. Thus it happens that in some four or five states Indians are excluded from voting either by some specific provision of law aimed at excluding them or by some interpretation of law which has the same effect.

The Office of Indian Affairs, under a Commissioner, is within the Department of the Interior. It is a highly decentralized agency, operating through 78 field stations scattered from Florida to Point Barrow, Alaska. While it is charged with the administration of Indian lands and property, the Office also operates schools, hospitals, agricultural extension, soil conservation, irrigation, and other services designed to assist the Indians in making full use of their resources and in assuming their proper place in the citizenship of the nation.

At the close of the year the Office of Indian Affairs was working closely with the Society for Applied Anthropology and interested individual authorities in the fields of personnel and government administration in an effort to re-examine the main foci of the problem of Indian administration, to get a clearer vision of its failures and some better indication of the directions which should be taken in the years ahead.

ANALYSIS OF INDIAN POPULATION

In a statement submitted to the Indian Affairs Committee of the House of Representatives in February 1944, the Commissioner of Indian Affairs made several interesting observations with regard to the Indian population. For example, he estimated that, out of the approximately 370,000 Indians in the United States (leaving aside for the moment the 32,750 Indians and Eskimos of Alaska), some 94,000 could be classed as predominantly Indian. That is, they would be for the most part full-blood Indians; they would speak an Indian language almost exclusively, and their social organization would be Indian. This group is concentrated in the states of Arizona, New Mexico, and Utah.

A second group, numbering approximately 124,000, might be termed an intermediate group, varying from one-half to full-blood, tending to use more Indian than English in everyday speech, and living by preference in Indian communities.

A third group, of approximately 150,000 Indians, might be classed as predominantly a group which had adopted white ways. The degree of Indian blood would range from one-half downward to the disappearing point. In this group English would be the usual language of everyday life and the customs and living habits would be those of the neighboring white men. The Commissioner warned against taking too literally a classification of this sort, since it was not based on any actual field survey but was rather an *a priori* analysis of population figures.

This statement also pointed out that the Indian population is predominantly rural with a perceptible trend toward urbanization. Thus the United States census for the years

1910, 1920, and 1930 gives percentages of 4.5, 6.2, and 9.9 of Indians in urban areas. The assumption is that 1940 will show the curve continuing upward, although those figures have not yet been released. Actually because of the war years the number of Indians who have gone into the urban industrial areas has increased sharply, but it is anticipated that many of these will return to their rural reservation homes after the war.

INDIAN LANDS

Still another comparison was made with reference to Indian lands. There is a rather widely held notion that Indians occupy large land areas, and that these areas are rich in timber, minerals, and other resources. Drawing again upon the United States census figures, it appears that in every state in which Indian reservations occur, the average acreage per Indian farm is considerably less than the average acreage of non-Indian farms. In Wisconsin, where the average of all farms is 122.5 acres, the average Indian farm is 40.1 acres; in New Mexico where the average of all farms is 1,139.4 acres, the average Indian farm is 638.2 acres. Other states range between these two extremes. In terms of land value, exclusive of buildings and machinery, the discrepancy is repeated. The poorest Indian land appears to be in Mississippi, where the average value is $571, as against $1,187 (which happens to be the lowest average of non-Indian farms). The highest average value of Indian farms occurs in Kansas, $3,981, where the average non-Indian farm value is given as $7,443. In California, which has a high average value of $12,897 for non-Indian farms, the average of Indian farms is given as $2,035. Thus it appears that Indians occupy a smaller holding on the average than their white neighbors and that their land is of a poorer quality.

INCOME SOURCES

Analysis of Indian income reinforces some of these conclusions. The latest year for which income figures have been analyzed is for 1942, but there is no reason to believe that the main characteristics will be any different in 1944. The principal sources of income are agriculture, 33.9 per cent, and wages, 34.8 per cent. Probably there will be a substantial increase in the latter category, because more Indians are working in non-agricultural pursuits than ever before and, of course, wages have been higher. The average Indian family had an income in 1942 of less than $900. Actually, 50.5 per cent of all Indian families had an income of less than $500, while only 3.8 per cent received more than $2,000.

Thus we have the impression of a rapidly growing Indian population (the rate of increase is greater than the rate for the country as a whole), subsisting on inadequate resources at a low economic level.

INDIANS IN THE WAR

The record of the Indians in the Second World War shines bright against a background of low income and small opportunity. As of April 1944, a total of 21,756 Indians, exclusive of commissioned officers, were in the armed forces, and of these 19,284 were in the Army, 1,555 in the Navy, 574 in the Marine Corps, 127 in the Coast Guard, and 216 in the women's auxiliaries of the Army and Navy. They have served in the Pacific area, in the China-Burma-Indian theater, in North Africa, Italy, Normandy, and now Germany. They have been awarded every distinguished honor up to and including the Congressional Medal of Honor. The list includes 16 Distinguished Flying Crosses, 29 Air Medals, 4 Distinguished Service Crosses and, not least, 75 Purple Hearts.

The effort at home has kept pace with the battle record. In spite of a heavy draining away of manpower, approximately 1,000 more families engaged in farming and stock raising on the reservations during the past year. At the beginning of 1944 Indians on all reservations owned a total of 1,531,000 head of livestock, or 90,000 more than at the beginning of the previous year. The total receipts from livestock sales in 1943 amounted to

$10,533,079, which was $676,000 greater than in the previous year. The total value of all agricultural products sold was $19,077,333 and an estimated $8,364,792 was consumed at home. Comparative figures for the preceding year are $17,457,241 and $7,985,584.

ALASKA NATIVES

In the summer of 1942 when the Japanese were threatening to overrun the entire stretch of Aleutian Islands as a first step to the invasion of the Alaska mainland, several hundred Aleut natives were evacuated to points on the mainland. In many cases native villages were destroyed either by the enemy or by our own forces in the course of erecting defense works and supply depots. In the summer of 1944, the invasion threat had been so effectively countered that the military authorities were satisfied that the natives might return home without risk. Actual work of resettlement had not got underway by the end of the summer season, although funds had been made available for that purpose. A total of $200,000 will be used to rebuild homes where necessary, to provide transportation, to restore personal property, where destroyed, and to assist the natives in resuming a livelihood.

The natives all over Alaska have been rather seriously affected by the war. In many instances the attraction of high wages has resulted in drawing natives away from their homes and their accustomed pursuits and thrown them into temporary communities where poor housing, lack of sanitation, and an abundance of liquor have worked together to deteriorate health conditions and add to the general problem of social adjustment. The problem of delinquency among native children has increased greatly, while facilities to deal with delinquency either by the Territorial Government or by the Federal Indian Service have been almost non-existent.

INDIAN LANDS AND FISHERIES IN ALASKA

Essentially, the difficulties which the natives of Alaska face run deeper than the war emergency and result from years of neglect and of disregard of their rightful place in Territorial affairs. It has been commonly assumed that since the United States did not enter into treaties with the Alaska natives they had no equitable title in their lands. On the basis of this assumption, lands were patented to non-Indians or other use rights conferred upon individuals and corporations without regard to occupancy rights of the natives. Actually, it has long been the theory of the United States Supreme Court that lands which Indians have occupied and used from time immemorial did not cease to be Indian lands when a foreign power, or later the United States, assumed sovereignty over the land; and further that the Indian title must be extinguished by purchase or agreement before any third party could obtain possession. Recognition of this Indian title was not derived from treaty or statute, but was inherent in the Indians as the original occupiers of the land. This theory has been enunciated in several Supreme Court decisions, the most recent being delivered in the so-called Walapai case, United States of America *v.* Santa Fe Pacific Railroad Company, Dec. 8, 1941.

Applying the principle set forth in the Walapai case to the natives of Alaska, the Secretary of the Interior decided that the question, whether these natives had occupancy rights to their lands in the absence of treaty agreements, was a matter for factual determination. There was the further fact to be considered in connection with the occupancy of land, namely, whether the Alaska natives were entitled to private rights of fishery, since the principal means of livelihood of the Indians in southeastern Alaska at least, was derived from the sea. Land actually served a secondary role in native economy, in as much as they used land only in connection with their activities as fishermen. This specific question of aboriginal fishing rights was before the Supreme Court in Damon *v.* Hawaii (194 U. S. 154), in which the late Justice Holmes, in unanimous opinion of the court held that: "A right of this sort is somewhat different from those familiar to the common law, but it seems to be well known to Hawaii, and, if it is established, there is no more theoretical difficulty in regarding it as property and a vested right than there is regarding any ordinary easement or *profit a prendre*."

Accordingly, the Secretary of the Interior in the Alaska Fisheries Regulations issued by him on March 13, 1942 caused to be inserted a provision to the effect that no fish trap might be established at any place where Alaskan natives claim a right of fishery by virtue of aboriginal occupancy, and any native claiming such a right might petition for a hearing in order to present information with respect to his claim.

Owing to the outbreak of the war with Japan and the need of obtaining Alaska fish with a minimum of delay or confusion, no hearings were held until September 1944. Then the natives of three villages, Hydaburg, Klawock and Kake, presented information before a board presided over by Richard H. Hanna, former justice of the Arizona State Supreme Court. These hearings were to be continued later in the year.

NATIVE RESERVES

Under the Act of May 1, 1936 the Secretary of the Interior is authorized to set aside any area of land previously reserved for the use and occupancy of Indians or Eskimos, together with any additional adjacent public lands actually occupied by Indians or Eskimos as a reservation for native use, upon condition that the native residents of such an area shall by a majority vote approve the action of the Secretary. This law further provides that in the creation of such native reserves no valid existing title or right of use shall be affected. Under this provision of law, reservations were established for the natives of Akutan, in the Aleutian Islands; Karluk, on Kodiak Island; Venitie, on the upper Yukon; Shishmaref and Wales, both on Seward Peninsula. In addition, reserves for 16 other villages are under consideration, two on the upper and one on the lower Tanana River; two in southeastern Alaska, five in central Alaska; five on the Arctic Coast, and one on the Noatak River. Most of these reserves are being created for the purpose of safeguarding hunting and trapping areas for native use. It is felt that unless action of this sort is taken the natives will be left without a means of livelihood and will become public relief burdens. If reserves were created for all the native villages in Alaska on an economic use basis, not more than 5 per cent of the total area of the Territory would be thus reserved.

HEALTH WORK

Indians throughout the country have been taking an increasing interest in health work. This statement is not as surprising as it may seem, in view of the hesitancy which Indians have shown in accepting medical practices other than those of their native institutions. It was only two or three years ago that the Indian Service, as a device for encouraging certain tribes to make use of a new hospital, invited the medicine men of the tribe to visit the hospital and sprinkle sacred cornmeal in the various wards. Gradually, as Indians come to see how effective modern medicine is in reducing the death rate among their members, they are voluntarily coming forward not simply to submit themselves as patients but to cooperate in developing medical programs. For example, boards of health made up entirely of Indian members have been established at several reservations for the purpose of working with Indian Service health personnel and obtaining cooperation from their tribal members.

Tuberculosis continues to be the greatest single scourge of the Indian population and the disease is particularly acute in Alaska. Additional facilities have been made available to the Indian Service in Alaska by the transfer of a 150-bed hospital at Skagway from the Army Medical Corps. An even larger Army installation is in process of transfer to the Indian Service at Excursion Inlet. Health work among Indians has always been handicapped by the lack of adequate vital statistics. During the current year steps were taken to establish a procedure by which complete analysis would be made of the birth and death rates, age distribution, cause of death and morbidity, hospital utilization, and economic factors affecting Indian health.

RESEARCH

In cooperation with the University of Chicago, Committee on Human Development, the Indian Office this year completed the field work on its research in personality development which it started three years ago. Separate monographs will be published by the University of Chicago Press on each of the five tribes studied. The first of these, entitled "The Hopi Way," by Dr. Laura Thompson and Dr. Alice Joseph, has just been issued and it is expected that the remaining volumes will appear early in 1945.

The research deals with a total of 1,000 Indian children, ranging in age from six years through adolescence, selected from contrasting groups within the Hopi, Navaho, Papago, Sioux, and Zuni tribes. In the case of each tribe, the historical and ethnological literature was carefully reviewed for the purpose of presenting the known facts regarding the environment, origins, culture traits, early contacts with the white man, and present day economy. Then for each child was compiled a complete family history, to which was added interview material and certain test findings dealing with overt behavior and with the subconscious. Finally, the data thus assembled is analyzed and from it is drawn a group profile and an individualized portrait of the child, with whatever conclusions may be adduced.

The research, even in its intermediate stages, has flooded with light many obscure problems of Indian social organization and the inter-personal relationships of Indians and Indians and Government. It is anticipated that when the findings are finally available, Indian affairs administration will be in a position to know, as it never has known before, how effective, and in what respects it is effective in dealing with Indians. It may also hope to predict, at least in some limited areas of action, what effectiveness it may anticipate. No administration of a native people, heretofore, has approached its general problems with such tools. It is realized that this represents only a bare beginning and that wide and profound fields of native thought and ways of life remain to be explored.

INTER-AMERICAN AFFAIRS

The program of the National Indian Institute, created by Executive Order on Nov. 1, 1941, has been varied and remarkably successful. In cooperation with the Inter-American Indian Institute in Mexico City, it carried on a community study of Tepoztlan, in the State of Morelos, taking account of sociological and economic factors and making use of psychological testing. A summary report of this study is published in the October 1944 issue of *America Indigena* (Vol. 4, No. 4), the official organ of the Inter-American Indian Institute.

The National Institute was one of several cooperating agencies which sponsored a project for training lay health practitioners in a rural Indian area in Nicaragua. Dr. Michel Pijoan, who directed the field work, brought back abundant evidence that such an undertaking was feasible as well as a desirable procedure for native areas where professional medical service is unavailable. The project made available stockpiles of simple medicaments at reasonable cost, and a medical formulary written in Spanish. Dr. Pijoan's report is contained in the same issue of *America Indigena.*

Early in 1944 the Institute dispatched a field worker to El Salvador to study the system of rural credit operations in that country, and a report is in preparation. Through the year, also, the Institute pursued a program of obtaining recordings of Indian music in Mexico and Guatemala.

XIV. POPULATION AND MIGRATION

PERIODICAL PUBLICATIONS

American Journal of Sociology
University of Chicago, Chicago, Ill.

American Sociological Review
450 Ahnaip Street, Menasha, Wisconsin.

Interpreter Releases
Common Council for American Unity, New York City.

Milbank Memorial Fund Quarterly
40 Wall Street, New York City.

Population Index
Office of Population Research, Princeton University, Princeton, New Jersey.

Social Forces
University of North Carolina, Chapel Hill, N. C.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Assn. on Indian Affairs, Inc., 381 Fourth Ave., New York City.
American Colonization Society, 514-6 Colorado Bldg., Washington, D. C.
American Ethnological Society, 100 Washington Square E., New York City.
American Eugenics Society, Inc., 1790 Broadway, New York City.
American Jewish Committee, 386 Fourth Ave., New York City.
Ancient Order of Hibernians in America, 1648 Westmont Ave., Pittsburgh, Pa.
Birth Control Federation of America, Inc., The, 501 Madison Ave., New York City.
Common Council for American Unity, 222 Fourth Ave., New York City.
English-Speaking Union of the U. S., 19 E. 54th St., New York City.
Federation De L'Alliance Française, 22 E. 60th St., New York City.
Federation of Polish Jews in America, 225 W. 34th St., New York City.
Hebrew Sheltering and Immigrant Aid Society of America, 425 Lafayette St., New York City.
Holland Society of N. Y., 90 West St., New York City.
Huguenot Society of America, 122 E. 58th St., New York City.
Indian Rights Assn., Inc., 301 S. Seventeenth St., Philadelphia, Pa.
Inter-American Indian Institute, The, Londres 64, Mexico City, D.F.
Jewish National Workers' Alliance of America, 45 E. 17th Street, New York City.
Milbank Memorial Fund, 40 Wall St., New York City.
National Assn. for Advancement of Colored People, 69 Fifth Ave., New York City.
National Committee on Maternal Health, 2 E. 103rd St., New York City.
National Council of Jewish Women, 1819 Broadway, New York City.
National Indian Institute, Department of the Interior, Washington, D. C.
National Jewish Welfare Board, 145 E. 32nd St., New York City.
National Urban League, 1133 Broadway, New York City.
Netherland-America Foundation Inc., 10 Rockefeller Plaza, New York City.
Polish National Alliance, 142 Grand Ave., Brooklyn, New York City.
Population Assn. of America, U. S. Bureau of the Census, Washington, D. C.
Population Research, Office of, 20 Nassau St., Princeton, N. J.

Scripps Foundation for the Study of Population, Miami University, Oxford, O.

United States Bureau of the Census, Washington, D. C.

United States Immigration and Naturalization Service, Franklin Trust Building, Philadelphia 2, Pa.

Young Judaea, Inc., 381 Fourth Ave., New York City.

Young Men's Hebrew Assn., Lexington Ave. and 92nd St., New York City.

Young Women's Hebrew Association, Lexington Ave., and 92nd St., New York City.

Zionist Organization of America, 41 E. 42nd St., New York City.

DIVISION XV

SOCIAL PROBLEMS AND CONDITIONS

PUBLIC SOCIAL WORK AND WELFARE

By Howard L. Russell
Director, American Public Welfare Association

GENERAL

The year 1944 was characterized generally by a realization that the turning point in the war had been passed and that ultimate victory was now a certainty. In the field of public welfare this realization has led to an increasing emphasis on planning for the problems of individual and family readjustment which may be anticipated as an inevitable by-product of the processes of demobilization and reconversion. While public welfare agencies continue to provide services to meet problems growing out of wartime mobilization, they are already confronted with new problems, such as those of the returning veteran, which are inherent in the demobilization process. The year primarily was one of transition.

Both the problems of wartime mobilization and the anticipated problems of demobilization have furthered the trend of the war years for public welfare agencies to provide social services covering a wide range of human needs in addition to their generally established function of furnishing assistance to those in economic need. While the high level of wartime employment has reduced the number of those dependent on public assistance to the lowest figure of the past few years, the social upheavals of the war have brought a wide variety of new problems involving personal or family adjustment to the public welfare agencies not only in war-congested areas but throughout the country.

STATE AND LOCAL PUBLIC WELFARE RESPONSIBILITIES

Despite the fact that the Federal Government has assumed full responsibility in a few specialized areas of public welfare and the role of leadership in a far wider area through the granting of financial aid to the states, the basic, residual responsibility for providing and administering public welfare services still rests with the states and localities. This means that, while certain programs are virtually in effect in every county of the nation and trends in public welfare development are clearly evident in all parts of the country, there still exists a considerable variation in public welfare functions from county to county and state to state. This difference has its value, as well as its possible disadvantages, in the fact that pioneering and experimentation in any given area of service are eagerly followed by other states and localities and ultimately adapted to their own needs. In the following sections describing the year's developments in various types of public welfare functions an effort has been made to cover all types of service even though in some cases they may not be found in all welfare departments.

PUBLIC ASSISTANCE

Public assistance continued in 1944 as before to serve as the hard core of the public welfare function around which other social services tend to develop. There were no major changes in the Assistance Title of the Federal Social Security Act, originally enacted in 1935, under which the Social Security Board reimburses state welfare agencies for one-half of their assistance payments (within certain maximum limits) to needy persons over 65 years of age, to needy dependent children under 16 years of age (18 if in school), and to the needy blind. The shrinkage in assistance rolls that has accompanied the increased wartime demand for manpower continued in 1944. This was owing to the employment of persons formerly receiving assistance, higher income for responsible relatives, and to the receipt, in many families with men in service, of allotment and allowance checks. Many persons with similar circumstances have also found it unnecessary to apply for assistance, and an increasing number of old persons are becoming eligible for benefits under the Old Age and Survivors' Insurance program. Despite unchanging Federal maximum contributions of $20 a month to the aged and the blind and $9 to the first and $6 to additional dependent children in one family group, the states tended to meet increased wartime living costs by a general raising of grant levels.

Old age assistance cases declined by approximately 5 per cent in 1944 and new applications declined by 10 per cent. In June 1944, 2,086,908 aged persons were receiving assistance grants averaging $27.55 a month. This represented an increase of approximately $2.90 a case over the average grant in June 1943.

The number of families receiving assistance in the aid to dependent children category declined by one-eighth during 1944 and new applications were only four-fifths of the number in 1943. In June 1944, 260,822 families, including 652,563 children, were receiving assistance grants averaging $43.08 a month. This represented an increase of approximately $4 a family over the payment in June 1943.

The number of blind persons receiving assistance declined by approximately 5 per cent, and new applications were only 75 per cent of those in the previous year. In June 1944, 73,883 blind persons were receiving monthly grants averaging $28.77, an increase of approximately $1.70 over payments in June 1943.

In addition to the three categories in which the Federal Government participates financially, the states and localities provide general assistance to other needy persons. Persons receiving general assistance during 1944 were largely unemployable. Despite this fact the case load declined by one-fourth, and in June 1944 only 259,000 cases were reported to the Social Security Board. Payments averaged $27.84, an increase of $1.50 over June 1943.

Two types of special wartime assistance were administered by state welfare departments with funds provided entirely by the Federal Government. The Civilian War Assistance program was continued during 1944 on the basis of an Executive Order with funds allocated from the President's Emergency Fund in order to assure aid to persons rendered needy as a result of enemy action. The second program provided aid for enemy aliens and others affected by restrictive wartime governmental action and their dependents.

RECOMMENDED CHANGES IN PUBLIC ASSISTANCE

The year 1944 saw a growing recognition, on the part of both the Federal and state governments and outside groups, of the inadequacy of the present assistance program, especially in terms of the needs which may be anticipated in the demobilization period. The Social Security Board, in its annual report, recommended the extension of Federal financial participation to general assistance, a larger proportionate Federal contribution in the poorer states, the lifting of present Federal maximum payments, especially in the case of aid to dependent children, the elimination of residence requirements, the payment of costs of medical care for assistance recipients, and certain other changes. While these proposals, along with others for the extension of the social security insurance programs were incorporated in legislation (the Wagner-Murray-Dingell bill), no Congressional action was taken on them.

CHILD WELFARE

The second central function of public welfare agencies, also supported and stimulated by Federal grants made possible through the Social Security Act but administered by the Children's Bureau in the Department of Labor, is the provision of child welfare services. Federal grants for this purpose are provided on a discretionary basis rather than on a fixed formula of matching. This plan is followed in order to provide demonstration activities in areas not previously served by child welfare workers and so to stimulate states and localities to extend their own services in this field. Total grants of $1,423,314.24 were made to states for this purpose during the fiscal year ended June 30, 1944, and at the beginning of the year 669 professional child welfare workers were working in state and local child welfare programs paid in part or in whole from these funds in addition to others paid wholly from other than Federal sources.

During 1944 the services of child welfare workers, whether paid with Federal, state, or local funds, were directed primarily to meeting the many problems created for children by wartime upheavals. While these problems are no different in character from those of children in peacetime, their intensity and frequency has been greatly aggravated by the absence of fathers in the armed service, the wartime employment of mothers, the overcrowding of schools and other community facilities in war centers, the employment of young people, and the general restlessness of the times. The functions of child welfare workers have been described by the Children's Bureau as including: (1) the protection of children in their own homes through social guidance and legal action, (2) arranging care for children outside their own homes where necessary, (3) finding and securing attention for children who are physically or mentally handicapped, (4) safeguarding children of illegitimate birth, (5) service to courts handling problems of child custody or juvenile delinquency, (6) assistance to child-caring institutions in problems of admissions and aftercare service, (7) extending psychiatric or other casework service to children in connection with mental hygiene clinics, (8) assisting schools in handling attendance and conduct problems, and (9) organizing community activities for the prevention of juvenile delinquency.

The year saw a marked development in community interest in the problem of juvenile delinquency. While no adequate figures are available as to the extent of increase in actual or potential delinquency, there is no question that some increase is an inevitable concomitant of the social upheavals of war. In most communities public welfare departments cooperated with the schools, courts, and other community agencies concerned with children and young people in sponsoring special or increased measures to prevent delinquency and to assist those young people who have become involved in delinquency. Prominent among these was the development of community recreation activities, with both public and private financing, in areas where little previously existed. Cooperative activity in providing day care for the children of working mothers also continued during 1944 although the primary responsibility in this field fell in most communities on the schools rather than on the public welfare agencies.

In addition to general child welfare services, most states place in their public welfare departments authority to license institutions, and in some cases families, caring for children outside their own homes, to supervise adoptions, and to operate state institutions for children, including training schools. While 1944 witnessed no notable changes in these fields, there is a definite trend toward broadening the licensing authority of welfare departments which will undoubtedly be reflected in legislation proposed to state legislatures in their next sessions. There is also a growing tendency to minimize the traditional distinction between dependent, neglected, and delinquent children in so far as treatment is concerned and to re-examine relationships between welfare departments and juvenile courts in the light of changing concepts.

MEDICAL SURVEY PROGRAM OF SELECTIVE SERVICE

State and local public welfare departments have also been called on for a variety of other wartime services. One of these has been their role in the Medical Survey program of Selective Service, instituted in October 1943, for the purpose of developing background information on registrants whose capacity to adapt to military services appeared doubtful. Welfare departments have rendered the major service to Selective Service boards in this program, and in June 1944 provision was made by Congress for their financial reimbursement. A similar service, though on a smaller scale, has also been rendered to WAC recruiting officers. Many public welfare agencies have also provided an informational and advisory service to inductees and their dependents in some cases through the assignment of social workers to the induction centers.

EMERGENCY WELFARE SERVICE PROGRAM

The year saw a general relaxing of community effort devoted to the protective aspects of civilian defense including the so-called "Emergency Welfare Service" program to assure welfare services and assistance to the civilian population in the event of bombing or other form of enemy attack. State public welfare commissioners generally continued, however, to serve the State Defense Council as State Director of Emergency Welfare Services, and local administrators continued to maintain the machinery established locally for that purpose. They also in many areas continued to extend leadership in the welfare aspects of the Civilian War Services end of defense council activities.

SERVICES FOR RETURNING VETERANS

Increasingly during 1944 community effort was directed toward the developing of needed services for returning veterans and coordinating the activities of all groups, both public and private, in their behalf. In many areas public welfare administrators took the lead in this coordinating effort; in others they were active participants. Most communities felt that the first compelling need for service to veterans at the local level was for a central point to which the veteran could turn for information as to available benefits and opportunities and referral to the place where they might be secured. In Cleveland over 70 agencies and organizations were brought together by the local Director of Health and Welfare, at the mayor's request, to organize this type of referral service. In other cities the council of social agencies has taken the lead; in some the public employment office has become the center around which broader referral services have been grouped; in many the defense council machinery has been used for this purpose; and in some the selective service reemployment committees have been broadened to meet all types of veterans' problems. Increasingly, public welfare agencies are concerning themselves with the needs of returning veterans and their families which may not be fully met by Federal veterans' benefits. Not only information but also personal services and possibly supplementary financial assistance will be needed by many returning servicemen.

NEW WELFARE PROBLEMS

The general social upheaval of the war has brought a wide variety of new problems to the public welfare agencies. Family separation, the employment of marginal workers, and migration have brought in their wake many personal and family problems on which the aid of public welfare workers has been sought. The readjustments involved in the processes of demobilization and reconversion will be equally disruptive for many of the people involved in them so that the present wartime trend toward expansion of the service functions of public welfare can be expected to continue in the post-war period.

FEDERAL WARTIME RESPONSIBILITIES

Wartime necessity has also led to an expansion of the Federal Government's direct responsibilities in the welfare field. This expansion has come about largely as a result of the fact that, since the prosecution of the war is a direct Federal responsibility, the well-being of those affected by the war, especially members of the armed services and veterans, is also to a major degree a Federal responsibility. The Federal Government has also accepted complete responsibility for that group of Japanese Americans whose removal from the coastal areas was considered necessary to the national security. In each of these three areas of service the Federal Government has acted—as a wartime measure—outside the normal scope of public welfare responsibility and machinery as represented in the Social Security program and state and local public welfare activities.

WELFARE OF SERVICE PERSONNEL

The responsibility of the Federal Government toward members of the armed services and their dependents is self-evident. The greater part of this obligation is discharged in terms of maintenance, salary, and dependents' benefits. In 1944 the strength of the armed forces reached a level of approximately 11,600,000 persons. Allotment payments were made to over 8,250,000 dependents of men in service. Social services were rendered in all branches of the service, in the Army largely through the Personal Affairs Division and in the Navy through its Welfare Division and chaplains. Both services carried forward during 1944 their plans for centering the release of men from service in a limited number of separation centers where all services related to demobilization could be centered. A Joint Army and Navy Committee on Welfare and Recreation, composed of civilian leaders in these fields and representatives of the armed services, advises the Secretaries of War and Navy about new programs and maintains liaison with the various civilian agencies concerned with welfare and recreational services to men and women in the armed forces.

Provision was also made for free maternity service for wives of men in the four lowest pay grades of service (and aviation cadets) and for medical care for their children in case of illness during the first year of life. This program was administered by state health departments with funds provided by the Children's Bureau. Up to August, a total of 368,000 cases had received care under this program during 1944.

VETERANS' BENEFITS

The responsibility of the Federal Government to members of the armed services does not cease with their demobilization. To the extent that they suffer a temporary or continuing handicap as a result of their war service they are entitled to compensatory benefits or assistance in reestablishing themselves in civilian life. The Federal Government, through the Veterans Administration, has for many years provided compensation payments to veterans of other wars with permanent disability of more than 10 per cent, pension payments to dependents of those killed in service, and hospital care for the disabled. During 1944 a new comprehensive bill to provide benefits to veterans of the Second World War, called the Servicemen's Readjustment Act of 1944 and popularly known as the G. I. Bill, was passed.

This bill makes a number of provisions to facilitate the transition from military to veteran status, authorizes the expansion of veterans' hospital facilities, and provides extensive benefits to honorably discharged veterans with more than 90 days of service.

These benefits include readjustment allowances for unemployed veterans of $20 a week, adjusted for any part-time earnings, up to a maximum of 52 weeks; educational provisions for those under 25 years of age and those whose education was interrupted by the war, including the payment of tuition up to a maximum of $500 a year and subsistence allowances of $50 a month for those without dependents and $75 a month for those with dependents; and the guarantee of half of loans up to $4,000 for home, farm, and business purchase. The act also provides a special placement service for all veterans within the United States Employment Service.

Other legislation enacted during 1944 provided preference in Federal employment for Second World War veterans, while laws passed in 1943 authorized the Army and Navy to make mustering-out payments to men and women in the armed services at the time of their release, such payments amounting to $100, $200, or $300, depending on the length and place of service, and authorized the Veterans Administration to provide extensive rehabilitative services to disabled veterans as well as to increase the level of its pension and disability benefit payments. As of Oct. 1, 1944, the Veterans Administration was paying disability pensions to 271,000 veterans of the Second World War, death pensions to the survivors of 38,000 men killed in this war, and announced that 104,000 veterans of the present war had received treatment in Veterans Administration hospitals.

While most of the benefits provided by the Federal Government for veterans lie somewhat outside the area of public welfare in its narrower sense, their availability and relative adequacy are a tremendous factor in the prevention of dependency. Moreover the Federal Government has recognized the fact that the readjustment of veterans involves more than the provision of medical care and cash benefits, not only through the employment of social workers in military and veterans' hospitals, but also on a wider scale through the work of the Retraining and Reemployment Administration. This agency grew out of the recommendations of the Baruch-Hancock *Report on War and Postwar Adjustment Policies* in which the need for central planning for the so-called "human side of demobilization" was recognized. Established first by Executive Order the Retraining and Reemployment Administration was given legislative sanction as a part of the Office of War Mobilization and Reconversion. General Frank Hines, Administrator of Veterans Affairs, was given the additional designation of Retraining and Reemployment Administrator with authority to deal with other Federal agencies, states, localities, and private groups in planning for the needs of both veterans and war workers in the demobilization period. First action of this office was the release of Retraining and Reemployment Order No. 1 outlining a plan for Federal cooperation with state and local committees planning and operating veterans information and referral centers. (See "Administration of Veterans Affairs," pp. 366-71.)

COMMUNITY WAR SERVICES

Certain other Federal agencies are also concerned with the stimulation of community activity in behalf of servicemen, veterans, and others affected by the war. The Office of Community War Services in the Federal Security Agency operates as the war arm of the Agency, assisting states and communities to provide all types of social services necessitated by the war. It functions both through a liaison relationship with other Federal agencies and national organizations and through its own field staff. A Welfare Committee, composed of national leaders in the welfare field, advises the offices on welfare matters. The OCWS has delegated many of its responsibilities to the regular welfare agencies of the government but has assumed a more direct responsibility in two fields which are new to the Federal Government, recreation and social protection, the latter involving measures designed to repress prostitution and promiscuity as a means of venereal disease control. The regional offices of OCWS are concerned with coordination and the two-way flow of information on problems of community war service between the Federal Government and local communities.

Another Federal agency which has continued to function in this area but on a diminishing scale during 1944 is the Office of Civilian Defense. While its activities looking to the organization of protective services to meet the danger of enemy attack have been reduced, its contacts with states and localities on the organization of needed community war services through defense council machinery has continued. The Committee for Congested Production Areas also continued to coordinate the work of Federal agencies in congested war areas but was scheduled to go out of existence on Dec. 31, 1944. The War Manpower Commission through its Plant and Community Service Section also dealt with community and in-plant welfare services from the point of view of their effect on the availability and best utilization of labor supply. The Children's Bureau, through its Commission on Children in Wartime and other advisory groups, has stimulated study and activities directed to the special wartime problems of children and young people.

JAPANESE RELOCATION SERVICE

The War Relocation Authority, transferred Feb. 16, 1944 from independent status to the Interior Department, is charged with responsibility for the maintenance, protection, and relocation of persons of Japanese ancestry evacuated from the West Coast as a war measure. Sixty-five thousand of these persons reside in eight relocation centers, 18,000, most of whom have declared their wish to return to Japan, are segregated in the Tule Lake Center, and 33,600 have left the relocation centers to establish themselves in normal community life by regular employment in areas outside the western zone of exclusion. During 1944 the emphasis on placement outside relocation centers and the decision of the War Department to accept American-born Japanese for military service made it possible to close another of the original ten centers as a prelude to the plan for the eventual liquidation of the War Relocation Authority.

OTHER FEDERAL WELFARE ACTIVITIES

The War Relocation Authority is also responsible for the operation of the Emergency Refugee Shelter, established in July 1944 at Fort Ontario, Oswego, New York, to provide care, on an extra territorial basis, for 982 refugees from Axis-dominated countries.

The Federal Works Agency, while primarily a construction agency, has provided funds for a number of social services related to war production needs under the authority of the Lanham Act. Funds have been made available to war-congested areas for the operation of schools, hospitals, recreation centers, and other facilities. Most closely related to the welfare field are the Lanham Act child care centers, operated largely by schools but in some cases by welfare agencies, for the care of children of working mothers. Over 100,000 children have been receiving care in approximately 3,000 centers financed by FWA funds. Lanham Act funds have also been used to finance rapid treatment centers for young women infected with venereal disease.

The Office of Vocational Rehabilitation of the Federal Security Agency, organized in 1943 to administer the provisions of the Barden-LaFollette

Act for grants to the states for rehabilitative services to handicapped civilians and veterans with disabilities not service-connected, continued to expand the development of that program in 1944.

The Department of Agriculture touches the welfare field through two important functions. Its Farm Security Administration continued during 1944 on a somewhat diminished scale to make operating loans to farm families lacking other sources of credit, accompanying such loans with considerable technical guidance and directing their use toward production for war needs. The Food Distribution Administration continued its school lunch program, with renewed legislative authority, making grants to schools and other public agencies, to cover a part of the food costs. Surplus foods were also distributed in limited quantities, chiefly for use in public institutions.

Other Federal agencies continued during the year programs which touch indirectly on the welfare field. The Interior Department continued to be concerned with welfare needs of Indians and persons in the territories and possessions. The Justice Department continued its operation of Federal prisons, correctional institutions, internment camps for dangerous aliens, and its administration of the immigration laws. The Federal Public Housing Authority of the National Housing Agency was responsible for war housing built with public funds outside of military reservations and for public housing activities for low-income families.

FOREIGN RELIEF

Of major importance during 1944 were developments in the field of foreign relief. As country after country formerly occupied by the enemy is liberated, aid for civilians becomes imperative. While relief in the first instance has been granted in North Africa, Italy, and other liberated areas by the Civil Affairs Division of the occupying military authority, the responsibility has subsequently been turned over to the United Nations Relief and Rehabilitation Administration, acting in turn through the established governmental agencies.

Private fund raising in the United States for foreign relief as well as for the welfare of the armed forces is subject to governmental supervision through the President's War Relief Control Board which licenses agencies soliciting funds for these purposes.

The War Refugee Board was established by Executive Order on Jan. 22, 1944 to effectuate with all possible speed the rescue and relief of victims of enemy oppression who are in imminent danger of death and otherwise to afford such victims all possible relief and assistance consistent with the successful prosecution of the war.

CONGRESSIONAL COMMITTEES

During 1944 a number of Congressional committees gave attention to public welfare problems. The Subcommittee on Wartime Health and Education of the Senate Education and Labor Committee (popularly known as the Pepper Committee) held hearings and issued a report on juvenile delinquency. Hearings were also held by the committee on problems of health and medical care. The Senate and House Committees on Postwar Economic Policy and Planning were both concerned with the possible problem of unemployment in the reconversion period. Subcommittees of the Senate Military Affairs Committee also studied this problem and suggested a comprehensive bill, known as the Murray-Kilgore bill, which failed of enactment. The House authorized a special study of the problems of the handicapped by a Subcommittee of its Labor Committee.

CONCLUSION

The year 1944 was not a year of major change in welfare activity at any of the three levels of government. New jobs were performed as required by the changing character of social needs and long-standing functions carried forward in the face of intensified personnel shortages. On the other hand, at all levels of public welfare administration there was a decided emphasis on reexamination of program, method, and function in terms of past experience and difficulties anticipated for the period ahead. The trend of thinking has been clearly directed toward a broadening concept of public welfare responsibility and a tightening of organizational structure to discharge that responsibility. The unification of public welfare administrative machinery at all three levels of government and a liberalization of the Social Security Act to provide broad Federal participation and leadership in all forms of social assistance and service are the immediate objectives of public welfare.

PRIVATE SOCIAL WORK

By Kathryn Close
Associate Editor, Survey Associates

FAMILY AND CHILD WELFARE

The oldest of the more than 500 family welfare agencies that exist today were initiated originally as organizations to provide economic aid for people who could not make ends meet. Gradually the realization grew that the root of family difficulties often goes deeper than financial trouble and requires a more highly skilled service than the handing out of money. This service, known as casework, includes personal counseling on such problems as individual adjustment, marital relationships, household budgeting, or parent-child relationships. With the growth of public welfare agencies, which since the middle 1930's have largely taken over the responsibility for financial assistance, the offering of such highly specialized services has become the major function of the private family welfare agencies. Though these agencies still provide some financial aid to individuals and families, it is usually only on a temporary or supplementary basis.

Since the war, case-work services have been sought by numerous families whose homes have become upset by the nervous tensions produced by the wartime strain of separation or the long hours of unrelieved work in war production. During 1944 the discharged service men who came to family agencies for help in adjustment to civilian life foreshadowed some of the problems the agencies will be expected to meet in the post-war period.

Though most family service agencies are non-sectarian in auspices, there are about 80 which are a part of the "Catholic Charities" of Roman Catholic dioceses, while others are sponsored by Jewish groups. In 1944 there were 288 agencies affiliated with the Family Welfare Association of America, the standard-setting body for the field.

CHILDREN'S SERVICES

Voluntary children's agencies serve children in their own family groups and children away from their homes. Their purpose is to help children individually to adjust themselves to their environment so that they may develop to their utmost potentialities, and to protect children from influences which are likely to obstruct or twist their development.

During the last few decades—particularly since 1930—custodial care for normal children has gradually been giving way to foster home placement. Many institutions have themselves adopted foster care programs, and some have been converted completely into child placing agencies. Care of children in institutions is more and more being regarded as a temporary service to help prepare a child for placement or return home. Since the war, however, foster homes have been increasingly difficult to find, and children's institutions once again have large enrollments.

A modified form of institutional care is the day nursery, established to provide daytime care for young children of working mothers. Though this movement was begun as far back as 1860, the growth was comparatively slow until the advent of the present war with its sudden demand for women in industry. As a result, most of the 600 day nurseries which existed before the war have expanded their programs, and numerous new nurseries have opened their doors, many of them stimulated by local social planning bodies and partially financed by Federal funds made available under the Community Facilities Act.

A few family or children's agencies, and some day nurseries, have experimented with foster family day care—placing out small children of working mothers for daytime care only. This type of care is usually reserved for children for whom group care is not considered advisable. Many agencies also provide a service which sends housekeepers into homes to care for children whose mothers are ill or temporarily out of the home,

Child protective activities carried on by private social agencies include the prosecution of adults for maltreatment or neglect of children, the securing of protective legislation, and the prevention of conditions that contribute to child delinquency. Family welfare agencies or children's aid societies often carry on such activities, but there are also agencies—sometimes with a state-wide franchise—which concentrate their efforts on these specific purposes. Since the war they have been particularly concerned with the hazards to children in the overcrowded housing developments and trailer camps on the fringes of war industry areas.

The Child Welfare League of America, a national voluntary agency, offers consultative service to local children's agencies, on a membership basis. In 1944 it numbered 450 agencies, private and public, among its members and affiliates.

SPECIALIZED SERVICES

There are several specialized services offered to individuals on a casework basis. These include services to unmarried mothers, to travelers, to the foreign-born, to veterans. The maternity homes of the National Florence Crittenden Mission, the Salvation Army, and religious and other private organizations in many cities offer social and medical care for unmarried mothers. They usually work in close cooperation with family and children's agencies in the community. The need for such services has increased during the war period, especially in overcrowded war-impact areas.

Services to travelers and migrants are provided by organized Travelers Aid Societies in more than 100 cities and elsewhere by cooperating agencies such as family welfare societies and YWCA's. Social workers are stationed at transportation terminals to serve persons who request: aid in locating lost friends or relatives; temporary financial help; services at some further point en route; aid in apprehending runaway children; and other forms of assistance.

Since the war the National Travelers Aid Association has cooperated with the United Service Organizations in setting up additional units to provide this type of service in communities on the mainlines of wartime travel, particularly military or naval posts.

REFUGEE SERVICES

Special services to the foreign-born have in the past decade been concentrated largely on aid to the refugees who have fled to this country from European oppression in the seven or eight years preceding the war. Though many agencies have been concerned with this group, the greatest proportion of direct aid to them has been provided by the National Refugee Service and the local committees which it has stimulated in various communities throughout the country. The work of the National Refugee Service has international aspects, as well as domestic, including the clearance of information with respect to broken families across national boundaries. Several other agencies, among them the long active International Migration Service, are engaged in similar international work. Numerous immigrant aid societies or "international institutes" established in the period of heavy immigration to this country, have since the 1920's tended to focus their attention upon intercultural relations among nationality groups.

SERVICES TO VETERANS

Perhaps the most notable development in the social work field during 1944 has been in the planning and provision of services to veterans. During the year it became apparent that such plans could not be put off until the demobilization period, as discharged service men were already beginning to return home in appreciable numbers—1,500,000 by September 1944—many of them requiring help in readjusting to community life. The Federal Government had accepted responsibility for vocational rehabilitation and retraining, educational aid, financial pensions for the disabled, and loans, but the returning men often needed direction, counsel, and advice in obtaining their rights and in planning their future. Accordingly, numerous communities formed veterans committees representative of public and private agencies, which established veterans' service centers, financed by public and private funds. Some of these act as referral centers only; others provide case-work and counseling services. These centers work closely with the United States Employment Service, the Veterans Administration, and other government agencies.

PROGRAMS FOR GROUPS

Among the various types of agencies which provide recreational and educational programs for groups of people are settlements and neighborhood houses, boys clubs, community centers established under religious auspices and youth agencies such as the YMCA's and YWCA's. Their programs are centered in buildings where facilities and teachers are provided for such activities as arts and crafts, dramatics, music, dancing, games, and discussion forums. Often the activities are carried out in small club groups for which the agencies provide leaders—usually volunteers working under professional supervision—to help in formulating a constructive program.

Agencies such as the Boy Scouts, Girl Scouts, and Camp Fire Girls, also carry out youth programs through small groups, but these are not centered in any specific building. Sponsored locally by churches, schools, and other organizations, which provide the volunteer leadership, these groups have a certain unity of program achieved through formulae set up by their national offices.

SETTLEMENTS

Most group work agencies serve what is probably a more typical cross section of the population than is represented by the clients of a case-work agency, for they draw the bulk of their clientele from middle income groups. This is not true, however, of the settlements, neighborhood houses, and boys clubs, agencies which have been set up specifically to serve the disadvantaged. The settlements had their beginnings in the 1880's and 1890's when small groups of persons who were interested in social betterment, began moving into congested urban areas to live and to work toward neighborhood improvement. The settlement (or neighborhood house—which has a similar function but is not based on residence) provides a place where children or adults can meet to follow activities of a recreational or cultural nature. The staff works through these self-selected "clubs" to stimulate interest in neighborhood projects, and helps organize inter-club or house councils which provide leadership for large endeavors. Among the projects which have been thus launched are credit unions, consumer cooperatives, and successful campaigns to bring government sponsored improvements to the neighborhood—garbage disposal, a playground, or even public housing. Since the war, the interests of both children and adults have been guided toward war service projects.

The National Federation of Settlements, which is supported by a tax on member settlements, provides the settlements with an avenue for exchange of information and a focus for joint action toward the achievement of social legislation that will improve the lives of men, women, and children in all neighborhoods. Today it has 163 affiliates.

BOYS CLUBS

During 1944, about 250,000 boys in various cities throughout the country belonged to 250 boys clubs, each of which has a well-equipped clubhouse. Though these clubs are not autonomous, they are linked together through membership in Boys Clubs of America, an organization that promotes the establishment of such agencies and provides them consultative aid. They provide a diversified program of physical, educational, cultural, and social activities under a leadership which attempts to create an interest in constructive projects and to foster desirable attitudes. Stimulated by their national organization, the boys clubs have had as their special war project a Boys Club Victory Program which emphasizes pre-military service training.

TEEN AGE CANTEENS

During the past two years a much publicized rise in juvenile delinquency resulted in numerous attempts to provide attractive but wholesome programs for young people in their early teens. Among the most popular were the teen age canteens which sprang up almost overnight in towns and cities throughout the country. Some of these have been sponsored by established youth agencies, such as the YWCA's; some have been an outgrowth of school recreation programs; some have been established by service clubs and others by the young people themselves. Usually they simulate a night-club atmosphere with garish decorations, a bar that serves milk or Coca-Cola, and music provided through a juke box. Though there was some evidence toward the end of 1944 that the craze for this form of youth program was beginning to wane, in the spring of the same year estimates of the number of teen age centers throughout the country ran to about 500.

HEALTH

Space does not permit a detailed description of the numerous health programs under voluntary auspices that are closely related to the field of social work. These can be divided into two types—treatment and educational. In the former, fall the numerous voluntary hospitals, which provide hospitalization to persons of all economic groups; the medical clinics set up either in connection with the hospitals or separately; the visiting nurse services; the pre-natal clinics for expectant mothers; the well baby clinics which provide regular examinations for infants; the mental hygiene clinics and child guidance clinics for persons with personality difficulties. In the educational group fall all the societies set up to disseminate information to the public in attempts to cut down the incidence of specific diseases: tuberculosis; cancer; venereal disease; infantile paralysis; and others. Some of these organizations are also engaged in research or grant funds to other organizations for research or treatment purposes.

COMMUNITY ORGANIZATION

Because most private social agencies have arisen as spontaneous reactions to obvious community needs, there have been duplication and gaps in services in most communities. However, in the past quarter century, a tendency has developed toward organization and planning of services on a community-wide basis. Sometimes this is no more than a method of overall financing of local services through a community chest, which takes the responsibility for raising and allocating funds for all approved agencies. The community chest movement had its beginnings in the First World War in war chests which arose in some communities to coordinate the numerous war relief appeals of that period into one fund raising campaign.

In 1944, there were more than 600 community chests throughout the country. Many of these had combined their forces with newly organized war chests with which they conduct a yearly campaign for the numerous foreign relief and war service organizations which are part of the National War Fund, as well as for their local services. Altogether in 1944 these chests raised nearly $250,000,000.

In many localities social agencies plan together not only for their financing but also to coordinate their services, so that community needs might be met as efficiently as possible. The media for such planning are councils of social agencies, neighborhood councils, coordinating councils, and health and welfare committees of defense councils.

The organization of councils of social agencies vary with the community, but the nucleus of their membership is always representative of the operating agencies, both public and private, in the city. In recent years the tendency has been to broaden the base of participation to be more representative of total community forces.

Under the guidance of a skilled staff, the council engages in a variety of functions, among which are the gathering of a body of knowledge about the community and its needs; the institution of studies on special problems; the providing of consultation and advice to agencies with operating problems; interpreting community needs to the general public; promoting teamwork in the operation of social agencies.

Neighborhood councils provide the same type of service on a localized neighborhood basis through the participation of all community forces at work in the neighborhood. Coordinating councils are similar in organization, but have usually been formed for a specific purpose, such as the combatting of juvenile delinquency.

Since the war the defense or war councils promoted by the Federal Government have in many areas stimulated the coordination of local social services through health and welfare committees which have been representative of both public and private agencies.

NATIONAL WAR FUND FOR WAR SERVICES

Numerous nation-wide organizations have been formed since the outbreak of the war in Europe to provide relief for the people of the war-devasted countries and to offer services to the men and women in our own armed forces. In 1943 the National War Fund was created to coordinate the fund raising for these organizations. In 1944 it had 19 member agencies. Besides the foreign relief organizations and two agencies concerned with refugees in this country, its membership included the United Service Organizations (USO), the United Seamen's Service, and the War Prisoners Aid of the YMCA.

UNITED SERVICE ORGANIZATIONS

The USO, formed in 1941, is operated through the combined efforts of six national agencies in the welfare and recreational fields: The National Council of the Young Men's Christian Associations, National Board of the Young Women's Christian Association, Salvation Army, National Catholic Community Service, National Jewish Welfare Board, and National Travelers Aid Association. Except for overseas camp shows, the USO confines its operations to the Western Hemisphere. These operations consist mainly in offering recreational opportunities and personal services to service men and in some instances to war workers. Clubhouses located near Army and Navy posts provide opportunities for quiet relaxation as well as the setting for a wide variety of informal group activities. Early in 1945, 1,845 clubs were operated by the USO. In addition, the organization maintained 145 troops-in-transit lounges in railroad or bus terminals; 133 Travelers Aid desks; 153 mobile units to serve men on maneuvers or on outpost duty; 75 camp shows in this country and 164 overseas. It was budgeted to receive $56,000,000 for the fiscal year Oct. 1, 1944-Sept. 30, 1945 from the National War Fund.

UNITED SEAMEN'S SERVICE

The United Seamen's Service operates clubs, hotels, and rest centers in this country and in foreign ports for men of the American Merchant Marine. Sixty such centers were maintained in 1944.

Y.M.C.A. WAR PRISONERS AID

The War Prisoners Aid of the YMCA has secured permission under the Geneva Convention from most of the warring countries to send its representatives into prison camps to help organize recreational, cultural, and educational activities. In addition, it provides books, athletic equipment, musical instruments, and other morale saving objects to the camps.

RED CROSS

Among the many and varied activities of the American National Red Cross, the most far flung today are its war services. These include aid to American prisoners of war, recreational services to the armed forces overseas and in Army and Navy hospitals, personal services to service men and their families implemented by field directors maintained with the troops and in hospitals in this country and overseas, and by "home service" units within the organization's 3,739 local chapters. Among its war activities not so close to social work are the production of surgical dressings, collection of blood plasma, training in first aid, and home nursing. Among its all-time social services, which are carried on in times of peace as well as of war, are services to veterans and their families, relief to victims of natural disasters and other catastrophies, health, nursing, and nutrition work, and foreign relief.

A quasi-public agency, operating under Congressional franchise, the American Red Cross is financed by voluntary contributions, most of which are raised in its annual campaign for funds. While in 1944 it raised $150,000,000, its fund raising goal for 1945 has been set at $200,000,000.

HOUSING

By Helen C. Monchow
National Housing Agency

GENERAL

In 1944 as in 1943, activity in the housebuilding field was dominated by war housing, but thinking and planning with respect to housing were dominated by war and post-war considerations. More important still, some actual steps were taken during the year toward getting housing out of its wartime and into its peacetime framework.

NATIONAL HOUSING AGENCY PROGRAM AND ACTIVITIES

This was the general picture for 1944 also in the Federal Government's housing program and activities as represented by the National Housing Agency and its three chief constituents—the Federal Home Loan Bank Administration, the Federal Housing Administration, and the Federal Public Housing Authority. The formulation of plans to meet the remaining war housing needs and the laying of foundations for peacetime operations continued to be the responsibility of the Office of the Administrator in the NHA, while the FHLBA, the FHA, and the FPHA carried on their regular and respective functions of maintaining a credit reserve system for home financing, by insuring approved mortgage loans on private housing, and by constructing and operating the housing which has to be provided with public funds. In 1944 these operating functions of the constituent agencies continued to be focused on completing the war housing job, but during the year these agencies also were taking stock of their resources and getting their machinery geared to carry their responsibility for promoting and sustaining a large volume of post-war residential building.

Two of the agencies under the jurisdiction of NHA passed important milestones in 1944. The Federal Housing Administration celebrated its tenth anniversary as an insurer of mortgages on private housing, and the Federal Savings and Loan Insurance Corporation, one of the main constituents of the Bank Administration, rounded out its first ten years in the role of protector of accounts up to $5,000 in insured savings and loan associations. These anniversaries attest the maturity of two of the important tools that have been made available for home financing.

WAR HOUSING APPROPRIATIONS

Congressional action during the year made no changes in the organization of NHA, but additional funds were made available by the Congress for war housing purposes. Another $100,000,000 was added to the authorization for insurance of private war housing, bringing the total to $1,700,000,000 under Title VI of the National Housing Act. Also another $15,000,000 was added to the authorization for publicly financed construction under the Lanham Act, bringing total allocations by the Congress for public war housing to $2,298,500,639.71.

WAR HOUSING CONSTRUCTION AND CONVERSION

During the first nine months of 1944 a total of 254,473 units of war housing were completed, of which 217,718 were newly constructed and 36,755 obtained through conversion of existing properties. Of the new units, 108,474 were provided by private builders and 109,244 were financed with public funds. The privately financed new units were practically all permanent family accommodations, whereas the new public war housing was almost wholly of temporary construction and included 72,610 family and 18,578 single-person units, as well as 18,056 units of stop-gap (largely trailer) shelter. During the same period construction was started on another 155,325 units, of which 96,380 were being financed by private builders and 58,945 by public funds.

Programming during the first nine months of 1944 continued to decline as would be expected; only 45,608 units were assigned to localities, with almost 50 per cent of them concentrated in California, Oregon, and Washington, and in the Washington D. C. metropolitan area.

STATUS OF THE TOTAL WAR HOUSING PROGRAM

These nine-months' accomplishments brought the total war housing program to 3,964,764 units as of Sept. 30, 1944. Of these, 2,094,000 or over half of the total were estimated to have been made available through use of existing structures. The balance (1,870,764 units) was scheduled to be provided by new construction (1,613,264 units) and by conversion of existing structures to war housing use (257,500 units). The total of new construction programmed is divided into 835,363 (52 per cent) to be provided through private and 777,901 (48 per cent) through public financing. Of this new private war housing, which consists almost exclusively of permanent family units, 737,590 accommodations were completed and 56,610 were under construction on Sept. 30, 1944, leaving 41,163 still to be started. Of the new public war housing, 736,363 units were completed and 29,791 were under construction, with 11,747 still to be started. New publicly financed units completed on Sept. 30, 1944 included 504,803 family accommodations, 162,726 single-person, and 68,834 stop-gap units.

Converted units (257,500) represented 6 per cent of the total program at the end of September, and of these, 209,182 were supplied or scheduled to be supplied by private owners using their own funds and the balance (48,318 units) had been or were to be obtained by the lease of private properties to the Government for conversion with public funds. As of the same date a total of 234,285 converted units had been completed, 192,123 with private and 42,162 with public financing. Another 9,693 units were under construction on that date, leaving 13,522 units still to go.

Stop-gap shelter assigned accounted for 79,248 accommodations or 2 per cent of the total program on Sept. 30, 1944.

By Sept. 30, 1944 privately financed war housing was 98 per cent occupied; for publicly financed units, which are managed by or for the Federal Public Housing Authority, the occupancy data were as follows:

Type of Accommodation	All Available Units	Units Available Three Months or More
Family Units	90%	90%
Single-Person Units	63	63
Stop-Gap	64	65
All Accommodations	85	85

The lower occupancy figures for public war housing reflect its "supplementary" character. It was designed to meet only the needs which private builders could not supply, and whenever and wherever private housing becomes available the object is to fill it first, letting what vacancies arise, if they do arise, fall upon the public housing accommodations. It is also supplementary in the sense of being the first to bear the impact of production cutbacks on the one hand and being held in reserve for expected expansions of production activity on the other.

Thus the war housing job is approaching completion, but this is as near a positive statement as can be made. It is increasingly clear that the full proportions of the program can not be foreseen until the war actually ends. Even as late as December, 1944 developments on the war fronts called forth expanded production in several lines with consequent demands upon manpower and the need for more war housing in a number of localities. Nevertheless, it is probably safe to say that, barring the unexpected, the major portion of the war housing job is done and attention can be directed to the longer-run housing needs of the nation.

Fulfillment of these needs waits primarily upon two things—the release of materials for the construction of homes according to peacetime standards and the availability of labor to do the construction job without robbing war production of its necessary manpower. The other ingredients for large scale resumption of home building are at hand. Ample funds are available under authorization for the insurance of loans under Title II of the National Housing Act. Provision has been made under that act also to extend war housing insurance to cover the refurbishing of Title VI properties to bring them up to standard, by installing better equipment, for example, or otherwise correcting deficiencies caused by wartime shortages. This may be done by refinancing existing Title VI mortgages, provided the amount of the new mortgage does not exceed that of the original loan. Further, large stocks of loanable funds in savings and loan associations and other financial institutions (both inside and outside the Federal Home Loan Bank System) are awaiting investment in post-war construction. Besides, these same institutions have pretty well cleared their books of the real estate they had been forced to take back for one reason or another, with the result that the dead hand of a heavy real estate overhang will not have its retarding effect on post-war market operations.

Likewise, the general outlines of the organization and program for getting the war housing accommodations out of the way so that they will not interfere with peacetime housing activity have been established. War Housing Centers are being closed out gradually. The FPHA has established a special branch to handle the disposition of public war housing, and experimentation is going on on a broad scale to determine the best method of disposing of temporary war housing and keep to the minimum its impact on the post-war housing market.

AGREEMENT FOR CONSTRUCTION OF NON-WAR HOUSING

Probably the most important step to date in the direction of resumption of normal housebuilding activity was the agreement made between the WPB and NHA to provide machinery for the construction of other than strictly war housing as soon as the materials situation permits. This housing, which is referred to as H-2 and H-3 housing to distinguish it from the H-1 or war housing program, is designed to serve two purposes: it will be used to relieve congestion in areas where undue stress of living conditions threatens the war effort. A by-product of the program will be its usefulness in keeping the housebuilding industry going and in readiness to take up its expected heavy post-war responsibilities.

Under this program the NHA will become claimant agent for the materials for practically all types of non-farm construction. Such construction falls into two main categories: (1) that which will be authorized to relieve general hardship in areas suffering from undue congestion; and (2) that which will be authorized to relieve hardship in individual cases, as, for example, in cases where the size of the family has changed, and that which will be authorized to replace housing destroyed by fire, flood, etc. This latter category, known as H-3 housing, has been expanded twice: first, to permit unlimited conversion in areas where the National Housing Agency determines that extreme housing shortages exist, provided the necessary manpower is available without threat to the war effort; and, second, to permit veterans of the Second World War who can not find suitable places to live to build, remodel, or improve houses for owner occupancy.

NEW PROCEDURES IN CONSTRUCTION PLANS

This new program was accompanied by other steps away from wartime construction conditions and toward resumption of normal building activity. According to the new procedures worked out by WPB and NHA, builders of housing, whether war or non-war, no longer are required to submit detailed lists of materials required. Instead they have only to establish the necessity of the proposed construction, and an approved application gives them blanket authority to construct the housing without getting an order for each type of material required. Also the War Housing Construction Standards and the War Housing Critical List both have been relaxed to permit the building of houses to almost peacetime standards. In fact, the housing permitted under the new regulations will meet the minimum standards established under Title II of the National Housing Act. The War Housing Critical List now contains only those materials which require priorities. This enables builders to use any other materials without preference ratings as they become available. Restriction on floor areas has been removed as have certain limitations on design of the house as well as of the heating system. Additional electric outlets are permitted; metal gutters and downspouts may be used. The major restriction remaining is an over-all limitation on the use of lumber two or more inches thick. This ruling retains control of the total amount of dimension lumber used but permits flexibility in room sizes.

Because we are still living in a

war economy, the housing which may be built under these new regulations must continue to serve war purposes. Its construction is limited to war production areas, but a program can not be authorized in a given locality if it would interfere with any war housing operation in progress there. It may be built with either private or public funds and all restrictions with respect to its occupancy have been removed, a relaxation which should make it of special benefit to returning veterans. H-2 housing will be built only under local quotas established by NHA. Top sales prices will be determined in each community in light of local costs of producing standard housing but with a maximum for higher cost areas of $8,000 selling price and $65 rental. The program will be administered with a view to obtaining as large a volume of units for rent as possible in a given area.

Operation under the H-2 program is dependent upon the availability of materials and manpower. During the last quarter of 1944 it appeared that some easing had occurred in these "bottleneck areas," and as a consequence some H-2 housing was scheduled. However, in December increased military demands again taxed manpower resources, with the result that further programming was halted. This reversal will not stop construction of the H-2 units that had been approved up to that time. The machinery also remains in readiness for resumption of operations as soon as war demands permit.

RELAXATION IN WAR HOUSING OCCUPANCY

The other steps toward normal housing operations do not deal with new construction but with the relation of war housing already built to the post-war housing scene. The year was marked by considerable relaxation of the controls over occupancy of war housing. The object was to increase the usefulness of war housing for war purposes by making it available to other workers in specified categories once the needs of in-migrants, for whom it had been built, were satisfied. Through this device also the occupancy of private war housing was maintained, even if that meant vacancies in some public war housing accommodations.

Relaxation also took the form of suspending, temporarily or permanently, some war housing construction, pending further study for its need, with the possibility of actual termination of some projects in the light of changed conditions.

The year also marked the discontinuance of programming for publicly financed conversions because the volume of conversions being made and likely to be made through this channel was no longer large enough to constitute an economical operation. This was accompanied by transfer of the management of the units obtained by this process from HOLC, which had leased and converted these structures as agent for NHA, to FPHA which now has responsibility for the management of all publicly financed war housing.

DISPOSITION OF WAR HOUSING PROJECTS

The final steps in this unwinding process include the actual disposition of war housing. One of the first moves in this direction was to put up for sale the projects that had been built and operated by the Defense Homes Corporation, a subsidiary of FPHA. These are all permanent developments and they total 25 projects representing an investment of over $71,000,000. The occupants are being offered the first opportunity to buy, unless a project is sold in its entirety. Occupants who do not wish to buy, however, may continue to rent and occupy the houses as long as there is a war need. Any houses which become vacant will be offered first for sale, then for rent, to war workers before they are offered for sale to others. To date, one entire project of 980 units has been sold and several separate houses in various other projects already have been purchased by the occupants.

The other step toward disposition

is the moving of war housing from the place where it has served its initial war usefulness to another where a need still exists. These moves have been successfully accomplished not only on houses built as demountables but also on units of temporary construction, some of which are being moved intact and others of which are being cut up and moved in panels. By the end of September, 1944 nearly 10,000 units had been moved over distances ranging from 2½ to 900 miles. Their second uses included not only war housing but hospitals, recuperation centers, nurses' homes, temporary schools, barracks, and storage or other utility purposes. Each move is regarded as an experiment to supply factual data on the feasibility of large scale moves of this character. Other experiments are being made at the same time to determine how best to dispose of the materials in these structures in the event re-use is not feasible. All this activity, of course, is quite apart from the moving of trailers which has gone on throughout the war period. The net effect of these experiments, plus the consolidation of occupancy in each locality, is to create a national pool of vacant temporary and demountable housing which can be used to meet remaining war housing needs and thus reduce the ultimate problems of disposition of war housing proper and of the materials out of which it has been built.

HOMES FOR RETURNING VETERANS

The year 1944 also marked what promises to be an important housing milestone in the form of the legislation enacted by the Congress in behalf of homes for the veterans of the Second World War. In this legislation Congress recognized that one of the most fundamental hopes of the returning veteran will be for a good home. It provided that the Federal Government, through the Administrator of Veterans' Affairs, will guarantee up to 50 per cent or a maximum of $2,000 loans made to veterans for the purchase, construction, repair or improvement of homes or for paying off over-due debts, taxes or special assessments on homes owned by veterans.

Where a veteran on his own behalf secures a first mortgage on his home from a Federal agency or under Federal insurance, he also can borrow a down-payment through a second loan up to $2,000, fully guaranteed by the Federal Government. The law limits the interest rates which may be charged and requires repayment within 20 years.

These are the general provisions of the GI Bill of Rights. What the bill means in brief is that the way for a veteran to build, buy, or improve a home has been greatly eased because his credit has been strengthened. He can buy a home without having the ready money for a down payment, if he has a job or income which will enable him to repay his loan on easy terms over a long period of time.

Clearly the GI Bill of Rights paves the way for the purchase of homes by large numbers of returning veterans, but it very wisely provides that the purchase price paid by veterans for homes financed under the act be reasonable, that the properties be suitable for dwelling purposes, and that the terms of payment be not excessive in relation to the veterans' present and prospective earnings.

What the full significance of this legislation will be as far as post-war housing activity is concerned can not now be foreseen with clarity. Certainly on the surface it appears to open up a wide market for home ownership and a substantial volume of residential building construction, in addition to the already large estimate of a sizable backlog of demand for housing growing out of wartime restrictions.

THE LONGER HOUSING VIEW

Strictly in the category of long range planning are certain researches now being undertaken and also in prospect which look toward a general lifting of the housing standards of the American people in the post-war era. This type of activity is going on in many communities the country over, and it is being stimulated and encouraged by the National Housing Agency, which has made plain repeatedly its conviction that housing in the last analysis is a local responsibility.

At the same time the Agency itself is carrying on research on a broad scale which it believes will supply important facts and lead to the development of techniques and procedures which will bring about improved housing on a broad front. Already it has assembled the basic facts on American housing needs; it has analyzed housing costs; and it is perfecting the tools whereby local housing needs can be determined with greater precision than in the past. It is examining the war housing experience for what it may contribute to future housing development, whether in the form of new materials, new methods of construction, new financial arrangements, etc. It is also studying critically the aids which the Federal Government now offers in behalf of more and better housing, evaluating their effectiveness for the purpose they are designed to serve and considering what, if any, other tools may be necessary to attain housing goals that are desirable and at the same time reasonable. All of these products are being made available to the communities and those actively engaged in housing production, to the end that housing may play its full role in the post-war period.

PRISONS AND CRIME CONTROL

By James V. Bennett
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PRISON POPULATION

According to reports released by the U. S. Bureau of the Census, the prison population of the United States has shown a steady decline since 1940. The number of prisoners in penal institutions at the end of the year 1940 decreased from 180,002 to 139,588 at the end of the year 1943, a decrease of 22.5 per cent. The scattered figures now available from state institutions indicate that the population trends in these institutions during 1944 are still downward. Although no specific data has as yet been published, it is estimated that there would be no significant change up or down from the figures of 1943.

This downward trend has also characterized the number of sentenced prisoners received from the courts. In 1940, 23,003 prisoners were received into Federal penal and correctional institutions. This figure continued to drop until 1943 when the lowest commitment rate since 1934 of 16,630 prisoners received from the courts was reached. At the end of 1944, however, the total number of prisoners received into Federal institutions had increased to 19,216. Of this total 6,602 were commitments for war related offenses, *i.e.* Selective Service violators, military prisoners, and other violators of the National Defense Act, and 12,614 for other Federal offenses.

Over the past four years, the downward trend in the prison commitments was to be expected. These were the war years with over 10,000,000 young men in military service and with generally favorable employment conditions. Although this downward trend seems to have definitely stopped in so far as the Federal institutions are concerned, there are indications that state institutions, too, have reached their low point and that in some areas, at least, the prison populations may now increase.

In general, the type of institution population has changed radically since the beginning of the war. Because the military services have drawn off practically all of the younger men, the state reformatory populations have shown a striking decline. On the other hand, there has been a general increase in the population of the training schools for juveniles, both boys and girls. There are fewer men in the penitentiaries but the decline has not been as great as in the reformatories. The most logical explanation is that the borderline offender, the one who commits property crimes in times of economic stress, is staying out of prison. The end result is that the prisons are becoming repositories for the serious and habitual offender, consequently the average length of sentence is greater. As was true in the last war, the population of women's institutions has increased, owing chiefly to an increase in prostitution.

PRISONS AND THE WAR EFFORT

Prison administrators throughout the country have made every effort to utilize the manpower in the prisons and reformatories in the national war effort. According to figures released by the War Production Board, state prison industries produced, as of Aug. 1, 1944, $35,716,710 worth of goods, including farm products, garments, rope, shoes, blankets, and other articles. In the Federal institutions, sales of industrial products, 98 per cent of which were for war goods, totaled $17,020,660, and the cash value of agricultural products totaled $1,200,000.

Aside from the actual contribution by way of manufactured goods, at least 100,000 men with past criminal records have been inducted into the armed forces, and the way has been opened to parole suitable men directly out of prison into the Army. These opportunities to serve the nation have created a high degree of enthusiasm and morale among prison inmates. Dr. G. Canby Robinson, director of the Blood Donor Service of the American Red Cross, paid high tribute to the men and women in prisons who have donated their blood so freely. As a group, prisoners have made an excellent record in the purchase of war bonds and have continued to show outstanding patriotism in willingness to work overtime and in submitting to "guinea-pig" medical experiments. Perhaps the most outstanding contribution of this kind during the year was a group of prisoners at the United States Penitentiary, Atlanta, Ga. who volunteered to be infected with malaria in order to test out a new remedy for that disease.

PRISON PROGRAMS OF THE ARMY AND NAVY

During 1944, both the War and Navy Departments established correctional divisions for the purpose of developing a sound rehabilitation program for serious disciplinary cases and for offenders. The objectives of both programs are to retrain and restore to active military service as many cases of this kind as possible and to return the others to the community after some treatment and retraining. With over 10,000,000 young men in the military and naval forces, it was to be expected that a sizeable proportion would become disciplinary or behavior problems and many would commit crime. At the beginning of the war, neither the Army nor the Navy had the organization, facilities, or the personnel to deal with the growing problem of military offenders. Both branches of the service, however, in the year made phenomenal progress in the development of a really correctional program.

Personnel with special qualifications and experience in probation, parole, and institutional treatment have been brought together, and classification and segregation of different types of offenders in different types of institutions have been made the foundation of the rehabilitation programs. War Department figures disclose that approximately 22,500 were under custody. These men are confined in six rehabilitation centers, four medium custody disciplinary barracks, two maximum custody disciplinary barracks, and a number of disciplinary training centers and post guard houses. In addition to centralizing its program under a Corrections Division, the Under Secretary of War has appointed a civilian board of penal and correctional authorities to assist the Division in the formulation of policies and in the development of a program of high standards.

The Navy has some 19,000 persons under confinement, of which about 12,000 are under sentence. The Navy's facilities include two maximum custody naval prisons, two retraining centers, as well as a number of disciplinary barracks and brigs. In the retraining centers, intensive training programs have been established, and only those men classified as prospects for restoration to active duty are sent to them. Both the Army and Navy programs for the rehabilitation of offenders are in decided contrast to the conservative and uncoordinated military prisoner programs during the First World War.

PAROLE

With the passage of a recent act in Mississippi, the roster of states having statutory provisions for a parole system is now complete. This does not mean, however, that all states have even the minimum elements of good parole administration. Many states still do not have parole officers to aid and supervise persons released on parole, and during the year the number of qualified parole officers employed declined, owing to recruitment for military service.

During the first years of the war, the proportion of prisoners released by parole increased as compared with peacetime years, principally because employment opportunities were better. Although nationwide figures are not yet available, there are indications that the ratio of paroles is beginning to decline, partly because parole boards have already paroled the prisoners thought suitable for release and partly because recent commitments include a higher proportion of serious and habitual offenders who have demonstrated that they could not be adjusted in the community under generally favorable economic conditions. Nevertheless, the rate of parole violations, even with the increase in the number of prisoners paroled during recent years, has remained low, and hundreds of thousands of former prisoners have demonstrated that they can take their place beside law-abiding citizens in the production line and in military service.

One of the most significant gains made by those who are interested in extending the scope of parole was when the Army openly accepted the principle of inducting men with criminal records into the armed forces. Early in 1944 the Military Personnel Division of the Army estimated that more than 100,000 men convicted of one or more felonies have been inducted.

The number of men who have been paroled directly from prisons into the Army has to date totaled only a few thousand, but the principle has been won and another avenue provided for the acceptance of released offenders into society. It is too soon to make definite assertions concerning the success of the men who entered the service of their country with a past record of convictions, but numerous instances are known to prison and parole authorities where former prisoners have served their country valiantly. New Jersey, in a recent survey of some 2,200 parolees from that state who had entered military service, learned that only one per cent had been dishonorably discharged. Steps have already been taken to obtain definite information on the records made by former prisoners in the Army, but the completion of such a study must wait the termination of the war.

PENAL, CORRECTIONAL, AND PAROLE LEGISLATION IN CALIFORNIA

The most progressive legislation enacted in any state during the year was the California act which establishes a State Department of Corrections to coordinate the administration of penal and correctional institutions and parole, both for juveniles and adults. The act eliminates a number of independent boards, transferring their functions to the Department of Corrections. For many years California has had a progressive indeterminate sentence law, and more recently a youth authority was created to coordinate correctional activities for youth under the age of 21.

The 1944 statute creates an Adult

Authority consisting of three members which, like the Youth Authority, has power to fix sentences, grant paroles, and transfer prisoners in accordance with principles of individual classification. A Board of Corrections, consisting of the Director of Corrections, members of the Youth and Adult Authorities and others, is created as a policy-making and coordinating agency and has the added specific functions of studying and recommending to the Governor and Legislature the advisability of establishing a hospital for criminal insane and narcotic addicts and to make a continuous study of the entire subject of crime, making pertinent recommendations on legislative and administrative action.

Although the act was approved only in February 1944, well qualified personnel have already been appointed to the more important positions created, and California is well on its way toward top rank among the states in the development of a well coordinated, effectively staffed correctional program based upon accepted principles of rehabilitation and crime control.

SHIFT TO POST-WAR PLANNING

During 1944 there was a noticeable shift in emphasis in the correctional field from war to post-war planning. The program of the annual Congress of Correction was studded with topics such as "Planning Now—For Tomorrow," "Must There be a Post-war Crime Wave," "Post-war Effects of Education, Classification and Case Work on the Socialization of the Prison Community," "Tomorrow's Industrial and Agricultural Programs," and "Post-war Progress in Jails."

In every section of the country, states began to appoint committees and draw blueprints of a modernized and effective correctional system for the future. Planning included new legislation covering sentencing procedures, centralization and consideration of correctional activities, better salaries and better methods of selection of personnel. New building programs are under consideration, all the way from the idea to the blueprint stage, awaiting the release of labor and materials now employed in the war effort. These programs include new institutions to round out incomplete systems or to replace ancient and inadequate structures as well as the modernization of existing institutions. Plans also stress the selection and training of personnel and particularly the recruitment to the correctional field of men and women now in the armed services. Commissions are being organized to obtain information, inform the public, recommend legislation and coordinate activities in the broad field of criminal justice, including police, prosecution, sentencing, probation, parole, institutional treatment, and prevention.

PENAL REORGANIZATION IN GEORGIA

During the year Georgia, under the leadership of Governor Ellis Arnall, reorganized its penal system and through the appointment of qualified personnel and the correction of both lax and cruel practices, went far in changing its reputation as one of the most backward states in penal administration.

PLANS IN OTHER STATES

Alabama, Virginia, Pennsylvania, California, Utah, New Mexico, and Colorado made plans for additional prison construction. In Pennsylvania, the Governor appointed a committee to study the subject of corrections and contemplates the establishment of a post-war commission to coordinate correctional activities as well as a central diagnostic or classification center. Massachusetts has a bill pending which establishes a central sentencing and parole board. Rhode Island is studying a comprehensive scheme for a State Security Agency. Nebraska is concerned with the modernization of her annual court procedure by centralizing the sentencing power. In Missouri, prison employees have been placed under a merit system and plans formulated for overhauling her sentencing and commitment procedures.

PLANNING ON A NATIONAL SCALE

The Federal Government has plans made for the building of several new institutions and the modernization of all its older institutions. It also has outlined a new program for the selection and intensive training of personnel. Surveys are being made of every phase of its program, looking toward the development of more effective correctional practices.

Despite the pressing problems of war, there has never been a year in which both workers in the correctional field and public spirited citizens have devoted more thought to planning a more efficient and effective correctional program. To obtain an overall view of the nation's needs and plans for the post-war era and to assist and stimulate such planning, a Committee on Post-War Planning under the chairmanship of Austin H. MacCormick has been created by the American Prison Association.

In addition, the American Prison Association and the Society for the Prevention of Crime have initiated a nationwide study of juvenile delinquency and crime prevention programs, the results of which will be published in a manual of crime prevention. The Council of State Governments through the Interstate Committee on Post-war Reconstruction Development has prepared an outline for state programs on post-war problems of delinquency and crime.

POST-WAR CRIME PROSPECTS

The correctional and prison systems of the country can play only a small part in changing the social and economic conditions which produce crime, but they do have the responsibility of focusing intelligent public attention upon those factors which do affect the crime rate. It is the general consensus of opinion among authorities on criminology that there will be an increase in crime after the war. Only when social and economic planning catches up with the varied and serious problems of post-war questions of dislocation, will it be possible not to expect an increase in crime.

PERIODICAL PUBLICATIONS

American Childhood
74 Park St., Springfield, Mass.

American Journal of Psychiatry
9 Rockefeller Plaza, New York City.

American Journal of Public Health
American Public Health Association, 1790 Broadway, New York 19, N. Y.

American Journal of Sociology
5750 Ellis Ave., Chicago, Ill.

American Sociological Review
U. S. Dept. of Agriculture, Washington, D. C.

American Sociologist
68 Faculty Exchange, Washington University, St. Louis, Mo.

Annals, The
American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia.

Boy's Life
Boy Scouts of America, 2 Park Ave., New York City.

Child, The
Children's Bureau, United States Department of Labor, Washington 25, D. C.

Compass
American Association of Social Workers, 130 East 22 Street, New York 10, N. Y.

Family, The
Family Welfare Association of America, 122 East 22 Street, New York 10, N. Y.

Housing Yearbook
National Association of Housing Officials, 1313 East 60 Street, Chicago 37, Ill.

Journal of Home Economics
Mills Bldg., Washington, D. C.

Journal of Social Hygiene
1790 Broadway, New York City.

Mental Hygiene
National Committee for Mental Hygiene, 1790 Broadway, New York 19, N. Y.

Monthly Bulletin
Child Welfare League of America, 130 East 22 Street, New York 10, N. Y.

Proceedings of the National Conference of Social Work
82 North High Street, Columbus 15, Ohio.

Public Welfare
American Public Welfare Association, 1313 East 60 Street, Chicago 37, Ill.

Social Forces
University of North Carolina, Chapel Hill, N. C.

Social Research
66 West 12th Street, New York City.

Social Security Bulletin
Social Security Board, Federal Security Agency, 1825 H Street, N.W., Washington 25, D. C.

Social Service Review
University of Chicago, Chicago, Ill.

Social Studies
809-11 North 19th Street, Philadelphia.

Social Work Today
112 East 19th Street, New York City.

Social Work Year Book
Russell Sage Foundation, 130 East 22 Street, New York 10, N. Y.

Survey Graphic
Survey Midmonthly, Survey Associates, Inc., 112 East 19 Street, New York 3, N. Y.

Yearbook
National Probation Association, 1790 Broadway, New York 19, N. Y.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

PUBLIC SOCIAL WORK AND WELFARE

AMERICAN PUBLIC WELFARE ASSOCIATION, 1313 East 60 Street, Chicago 37, Ill.

FEDERAL SECURITY AGENCY, Social Security Building, Washington 25, D. C.

UNITED NATIONS RELIEF AND REHABILITATION ADMINISTRATION, 1344 Connecticut Avenue, N.W., Washington 25, D. C.

PRIVATE SOCIAL WORK

AMERICAN ASSOCIATION OF SOCIAL WORKERS, 130 East 22 Street, New York 10, N. Y.

AMERICAN ASSOCIATION OF SCHOOLS OF SOCIAL WORK, 1313 East 60 Street, Chicago 37, Ill.

AMERICAN FEDERATION OF INTERNATIONAL INSTITUTES, 2 West 45 Street, New York 19, N. Y.

AMERICAN NATIONAL RED CROSS, 17th & O Sts., Washington 13, D. C.

CHILD WELFARE LEAGUE OF AMERICA, 130 East 22 Street, New York 10, N. Y.

COMMUNITY CHESTS AND COUNCILS, INC., 155 East 44 Street, New York 17, N. Y.

COUNCIL OF JEWISH FEDERATIONS AND WELFARE FUNDS, 165 West 46 Street, New York 19, N. Y.

FAMILY WELFARE ASSOCIATION OF AMERICA, 122 East 22 Street, New York 10, N. Y.

INTERNATIONAL MIGRATION SERVICE, American Branch, 122 East 22 Street, New York 10, N. Y.

NATIONAL BOARD, YOUNG WOMENS CHRISTIAN ASSOCIATIONS OF THE UNITED STATES OF AMERICA, 600 Lexington Avenue, New York 22, N. Y.

NATIONAL CATHOLIC COMMUNITY SERVICE, 350 Fifth Ave., New York City.

NATIONAL CATHOLIC WELFARE CONFERENCE, 1312 Massachusetts Avenue, N.W., Washington 5, D. C.

NATIONAL CONFERENCE OF CATHOLIC CHARITIES, 1317 F Street, N.W., Washington 4, D. C.

NATIONAL CONFERENCE OF JEWISH SOCIAL WELFARE, 67 West 47 Street, New York 19, N. Y.

National Conference of Social Work, 82 North High Street, Columbus 15, Ohio.

National Council, Young Men's Christian Associations of the United States of America, 347 Madison Avenue, New York 17, N. Y.

National Federation of Settlements, 147 Avenue B, New York 9, N. Y.

National Institute of Immigrant Welfare, 2 W. 45 St., New York City.

National Jewish Welfare Board, 145 East 32 Street, New York 16, N. Y.

National Publicity Council for Health and Welfare Services, 130 East 22 Street, New York 10, N. Y.

National Recreation Association, 315 Fourth Avenue, New York 10, N. Y.

National Refugee Service, 139 Centre Street, New York 13, N. Y.

National Social Work Council, 1790 Broadway, New York 19, N. Y.

National Travelers Aid Association, 425 Fourth Avenue, New York 16, N. Y.

National War Fund, 46 Cedar Street, New York 5, N. Y.

Salvation Army, 120 West 14 Street, New York 11, N. Y.

United Seamen's Service, 39 Broadway, New York 6, N. Y.

United Service Organizations, 1630 Empire State Building, New York 1, N. Y.

HOUSING

National Association of Housing Officials, 1313 East 60 Street, Chicago 37, Ill.

National Housing Agency, 1600 Eye Street, N.W., Washington 3, D. C.

PRISONS AND CRIME CONTROL

American Bar Assn., 1140 N. Dearborn St., Chicago, Ill.

American Civil Liberties Union, 170 Fifth Ave., New York City.

American Council of Learned Societies, 1219 16th St., N.W., Washington, D. C.

American Institute of Criminal Law and Criminology, 357 E. Chicago Ave., Chicago, Ill.

American Law Institute, 3400 Chestnut St., Philadelphia, Pa.

American Parole Association, 135 East 15 Street, New York 3, N. Y.

American Prison Association, 135 East 15 Street, New York 3, N. Y.

National Committee on Prisons and Prison Labor, 1108 16 Street, N.W., Washington 6, D. C.

National Crime Prevention Institute, 41 Press Building, 100 Washington Square, East, New York 3, N. Y.

National Jail Association, 135 East 15 Street, New York 3, N. Y.

National Probation Association, 1790 Broadway, New York 19, N. Y.

National Society of Penal Information Inc., 114 E. 30th St., New York City.

Osborne Association, 114 East 30 Street, New York 16, N. Y.

Society for the Prevention of Crime, 122 East 22 Street, New York 10, N. Y.

Women's Prison Assn., 110 Second Ave., New York City.

CHILD WELFARE

Boy Scouts of America, 2 Park Avenue, New York 16, N. Y.

Boys' Clubs of America, 381 Fourth Avenue, New York 16, N. Y.

Camp Fire Girls, Inc., 88 Lexington Avenue, New York 16, N. Y.

Child Welfare League of America, 130 East 22 Street, New York 10, N. Y.

Girl Scouts, 155 East 44 Street, New York 17, N. Y.

National Child Labor Committee, 419 Fourth Avenue, New York 16, N. Y.

National Society for Crippled Children of the United States of America, 314 Masonic Temple, Elyria, Ohio.

HEALTH

American Public Health Association, 1790 Broadway, New York 19, N. Y.

American Social Hygiene Association, 1790 Broadway, New York 19, N. Y.

National Committee for Mental Hygiene, 1790 Broadway, New York 19, N. Y.

National Health Council, 1790 Broadway, New York 19, N. Y.
National Organization for Public Health Nursing, 1790 Broadway, New York 19, N. Y.
National Society for the Prevention of Blindness, 1790 Broadway, New York 19, N. Y.
National Tuberculosis Association, 1790 Broadway, New York 19, N. Y.

FOUNDATIONS

Carnegie Endowment for International Peace, 405 West 117th St., New York City.
Carnegie Foundation, The, 522 Fifth Ave., New York City.
Commonwealth Fund, 41 East 57 Street, New York 22, N. Y.
General Education Board, 49 West 49 Street, New York 20, N. Y.
Guggenheim Foundation, 551 Fifth Ave., New York City.
Hall of Fame for Great Americans, New York University, University Heights, New York City.
Milbank Memorial Fund, 40 Wall Street, New York 5, N. Y.
Moro Educational Foundation, 475 Fifth Ave., New York City.
Rockefeller Foundation, 49 West 49 Street, New York 20, N. Y.
Rockefeller Institute for Medical Research, York Ave. and 66th St., New York City.
Rosenwald Fund, 4901 Ellis Avenue, Chicago 15, Ill.
Roosevelt Memorial Assn., 28 E. 20th St., New York City.
Russell Sage Foundation, 130 East 22 Street, New York 10, N. Y.
Twentieth Century Fund, 330 West 42 Street, New York 18, N. Y.
Woodrow Wilson Foundation, The, 8 W. 40th St., New York City.

SOCIAL AGENCIES

American Assn. of University Women, 1634 I St., N.W., Washington, D. C.
American Nurses Assn., Inc., 1790 Broadway, New York City.
American Woman's Assn., 111 E. 48th St., New York City.
General Federation of Women's Clubs, 1734 N St., N. W., Washington, D. C.
Girls Service League of America, 138 East 19th St., New York City.
National Association of Women Artists, 42 W. 57th St., New York City.
National Council of Women of the U. S., Inc., 501 Madison Ave., New York City.
National Federation of Business and Professional Women's Clubs, 1819 Broadway, New York City.
National League of Women Voters, 726 Jackson Place, Washington, D. C.
Woman's Roosevelt Memorial Assn., Roosevelt House, 28 E. 20th St., New York City.
Women's Educational and Industrial Union, 264 Boylston St., Boston, Mass.
Women's Trade Union League, 247 Lexington Ave., New York City.

DIVISION XVI

LABOR AND LABOR LEGISLATION

LABOR CONDITIONS AND LEGISLATION

By Witt Bowden
Bureau of Labor Statistics, Department of Labor

GENERAL

The major interest in the labor field in 1944, as in 1943, was the maintenance and efficient utilization of manpower resources. The labor force, when the armed services are included, continued to expand. The efficient use of labor was aided by the continued movement of workers into labor shortage areas and industries, by the system of priority referrals, and by labor-management cooperation.

Prices in 1944 were substantially stabilized, but such intangible factors as deterioration of quality and disappearance of low priced goods caused much concern. Wage changes during the year were mostly minor adjustments rather than general wage-rate advances. The Little Steel formula was maintained despite repeated efforts by the unions to force revision.

There was a continued growth in the membership of unions and a continued participation by unions in the activities of important administrative agencies, particularly the National War Labor Board, War Manpower Commission, and War Production Board. The no-strike pledge of the unions was renewed, and the number of man-days of idleness owing to strikes was materially reduced. An outstanding development in union policy was the unusually active participation in political campaigns, particularly in aiding workers to register and vote. Few labor laws and court decisions in 1944 were of outstanding importance, but proposed legislation aroused exceptional interest. Labor unions were active in formulating plans for transitional and post-war participation in programs designed to maintain full employment and high standards of living.

WMC PRIORITY REFERRALS

There was worked out before 1944 a plan known as the "controlled referral system" applicable to areas of acute labor shortage. The "priority referral system" was a development and extension of "controlled referrals." The extended plan of priority referrals went into effect on July 1. The term was defined as the channeling of workers to jobs in the order of the urgency of war needs, under the system of employment ceilings. Local administrators of the plan were directed to give employees as wide a range of choice of jobs and to give employers as much freedom of choice of workers as possible. Both employees and employers were given the right of appeal.

The working out of the priority referral system was facilitated by an order issued in August by the Director of War Mobilization for the purpose of coordinating the policies of the various government agencies in accord with the system. The directive placed explicitly upon government agencies the responsibility of cooperating with the War Manpower Commission in imposing penalties, as for example, the withholding of materials from employers who might fail to conform to the plan. The three major manpower control policies were the required hiring of male labor through the United States Employment Service, the fixing of employment ceilings, and the establishment of the 48-hour work week in war plants. In addition, various non-regulatory functions and programs were carried out for such purposes as the promotion of a more effective utilization of labor. The program of manpower control and utilization was carried out on a voluntary basis, in the sense that the program was worked out and administered in cooperation with representatives of management, labor, and agriculture.

SUPPLEMENTARY MANPOWER CONTROLS

Although the controlled referral plan resulted in material improvements in the manpower situation, the developments toward the end of 1944, particularly the unexpected prolongation of the war in Europe and the demands created by the German counter offensive, made necessary certain additional measures. The Director of War Mobilization and Reconversion established on Dec. 6 an advisory board, including representatives of major labor organizations, to aid him in coordinating manpower supply, production, and transportation. The director, on Dec. 9, issued an order for increasing the drafting of men from 26 to 37 years of age, and this order was carried out by the director of Selective Service in the form of instructions to draft boards. The purposes of these measures were to stimulate the shifting of workers to essential work and to make possible the release of skilled workers in the armed forces.

On Dec. 14, the chairman of the WMC announced a uniform nationwide system for classifying manpower orders of employers in five categories in the order of their relative importance in connection with the war. On Dec. 23, the WPB, acting under instructions of the Director of War Mobilization, issued a regulation designed to withhold manpower priorities and allocations of materials from employers who failed to meet WMC hiring rules. A further measure, announced on Dec. 23, and designed to conserve manpower and also materials and transportation facilities, was an order for the closing of all race tracks on Jan. 3, 1945, an order to be enforced if necessary by the withdrawal of employment ceilings and steps to prevent the use of critical materials, services, and transportation in the operation of the tracks. A related measure called for a review of the qualifications of professional athletes for military service.

LABOR UTILIZATION PROGRAMS

The manpower program was not restricted to formal controls. Various measures were undertaken to aid employers and workers in the efficient utilization of available manpower. It was reported by the WMC on Dec. 17 that more than 5,000 manpower utilization surveys had been made during the preceding 18 months, and that as a result many millions of man-hours per month had been saved. By the end of the year more than 500 utilization surveys per month were being made.

The training and placement services of the WMC aided in the employing of almost half a million physically handicapped persons during the year. A job analysis method was developed for facilitating the adaptation of handicapped workers to war jobs or to jobs from which workers might be released for war work. The Bureau of Training of the WMC, in cooperation with the Office of Education and other agencies, public and private, continued its regular programs of intensive training for war work. During the entire period of the wartime training programs up to Sept. 1, 1944, about 13,760,000 persons received some form of special training.

The labor utilization program included also various efforts to remedy unfavorable conditions of work, especially in congested areas. On Aug. 20, the WMC announced a program for the extension of shopping and professional services, not only in war production communities but also in many of the war plants themselves, to include pick-up laundry service, facilities for the payment of insurance premiums and gas and electric bills, and arrangements for automobile repair establishments on plant parking lots. On July 28, the War Food Administration reported that its in-plant feeding program for workers in establishments engaged on war construction had made it possible for about 5,000,000 workers to obtain mid-shift meals on the job.

PREVENTION OF ACCIDENTS AND INJURIES

The accident frequency rate, representing the average number of disabling industrial injuries for each million employee-hours worked, was 19.6 in manufacturing industries on a cumulative basis from January to August 1944. The rate indicates a slight reduction from 20.8 for January to August 1943. The industry with the highest cumulative frequency rate from January to August 1944 was sawmills, the rate being 56.8. The corresponding rate for the same period of 1943 was 65.3. The women's clothing industry had the smallest cumulative frequency rate (5.9) from January to August 1944, the rate in the same period of 1943 being 5.5. Explosives showed a decline from 12.2 to 6.2; rayon and allied products, from 8.1 to 6.6; and small arms ammunition, from 19 to 7.1.

Preliminary reports from individual establishments cooperating in the Department of Labor's drive for fewer accidents show large reductions resulting from the use of the consultant and training facilities of the Department's National Committee for the Conservation of Manpower in War Industries. Firms employing more than 500,000 workers were reported in November to be actively cooperating in the accident prevention drive. It was also reported, in December, that 25 engineering colleges had adopted plans for safety instruction as a permanent part of their curricula, the plans being based upon a program worked out by the National Committee on Safety Engineering in Colleges, which in turn developed out of the Department of Labor's emergency safety program. More than 70,000 production supervisors had received formal training of this general nature after July 1941.

PROBLEM OF ABSENCE FROM WORK

Absence from work continued to be a major problem. The absence rate (defined as whole days lost by wage earners by absence from work, either excused or unexcused, as per cent of man-days scheduled) underwent little change during the year. The rate for a selected group of 28 manufacturing industries particularly important in war production was 6.2 in both October 1943 and October 1944. The variations during the 12 months were slight except for December when the rate rose to 8.4. Approximately one-third of all reporting establishments listed unusual amounts of sickness as the cause of increased absence rates in December. The highest rate in the 28 industries, in October 1944, was 8.2 in shipbuilding, and the lowest rate was 4.1, in petroleum refining.

A study of absences from work indicates that illness was the major cause. Other outstanding causes were the difficulty of the work as tending to induce fatigue, monotony, and tension; the lengthened period of work; the increase in the number of workers on "graveyard" shifts; inadequacy of recreational facilities and opportunities for normal social life; transportation difficulties; unsatisfactory housing; the increase in the proportion of workers with household responsibilities, including the care of children; and unsatisfactory industrial relations. Preventive measures were, therefore, connected mainly with maintenance of health, prevention of accidents, and the improvement and extension of plant and community facilities for transportation, shopping, and recreation.

LABOR TURNOVER

Labor turnover has been described as the country's "biggest headache." It should be noted, however, that a major part of labor turnover has been a necessary accompaniment of the labor mobility required for conversion to war production and for the continuous adaptation of production facilities to meet changing needs. There was a smaller quit rate in manufacturing as a whole from July to October 1944 than in the corresponding months of 1943. The quit rate was somewhat higher in each of these months in 1943 than in 1944: 5.6 per 100 workers in July 1943 and 5 in July 1944; 6.3 in August 1943 and 6.2 in August 1944; 6.3 in September 1943 and 6.1 in September 1944; and 5.2 in October 1943 and 5 in October 1944. These months, it will be noted, cover the period of the rapid advance of the armed forces through France, when the prevailing view assumed an early end of the war in Europe. As for major groups of war industries, the average quit rate for the four months mentioned was significantly higher in 1944 than in 1943 in ordnance plants, slightly higher in iron and steel and their products, and lower in electrical machinery, transportation equipment (except automobiles), machinery (except electrical), and chemicals and allied products.

CHANGES IN HOURS OF WORK

There were few significant changes in average weekly hours in 1944. Some increases resulted from extensions of the 48-hour minimum scheduled week, together with the pressure of demand for workers, WMC employment ceilings, and efforts of employers to make full use of available workers. These increases, however, were held in check by the cumulative effects of long work schedules and of extra shifts, resulting in fatigue, illness, absences, and labor turnover. The increases in hours between 1939 and 1943 had been so extensive as to achieve substantially a maximum of hours. Average hours in manufacturing as a whole had risen from 37.7 hours in 1939 to 45.4 in October 1943, and no substantial change occurred in 1944. The non-durable goods industries, however, achieved an increase of six-tenths of an hour per week, the average rising from 42.7 hours in October 1943 to 43.3 in October 1944. The major increase in hours occurred in bituminous-coal mining, the average rising from 27.1 hours in 1939 to 38.8 hours in October 1943. There was a further rise to 44.1 hours in October 1944, but during the interval the new agreement provided for the inclusion of travel time in the mines. The accompanying tabulation gives averages for all manufacturing, for non-durable goods industries, and for selected industries. The figures for steam railroads are for September instead of October.

Estimates by the Bureau of the Census indicate that the average hours worked in non-agricultural employment as a whole (including self-employed workers) declined from 46.2 hours per week in October 1943 to 45.4 hours in October 1944. The estimates for agricultural workers, including farmers as well as hired workers, show a decline from 60.3 hours

	Average Weekly Hours In			
	1939	1943	October 1943	October 1944
All manufacturing	37.7	44.9	45.4	45.6
Nondurable goods industries	37.4	42.5	42.7	43.3
Blast furnaces, steel works and rolling mills	35.3	44.3	46.3	47.1
Machine tools	42.9	50.9	50.7	51.2
Shipbuilding	38.0	47.5	47.9	49.4
Cotton manufactures	36.7	41.5	41.5	42.3
Men's clothing	33.2	38.1	38.0	39.1
Flour	42.3	48.8	49.6	49.1
Bituminous-coal mining	27.1	36.6	38.8	44.1
Electric light and power	39.6	41.6	42.7	43.1
Steam railroads	43.5	48.7	49.4	49.0

per week in October 1943 to 55.4 hours in October 1944.

HOURS OF WORK AND LABOR PRODUCTIVITY

It was announced by WMC on Dec. 9, 1943, that by the end of that year the 48-hour minimum scheduled week would be in effect in most of the 193 labor shortage areas. In many plants the scheduled work week was much longer than the 48-hour minimum. A notable extension of the 48-hour minimum in 1944 was to the cotton textile industry. Athough increases in hours restricted the average hourly output of workers, the lengthened work week under emergency conditions was a necessary measure for conserving manpower. An estimate made by WMC in April 1944, indicated a saving of 47,300 men from the iron and steel industry alone, for employment in other industries and for the armed forces. The saving in manpower in that industry, it was pointed out, was accomplished in the period in which steel production topped all previous records.

Studies by the Bureau of Labor Statistics of the effects of the long work week in 12 metal working plants indicated that hours worked beyond 40 or even 48 per week result in additional output but at the price of continuous decreases in efficiency and marked increases in absences from work. Longer working time tends to result in a slowing down not only during the added hours, but throughout the entire work week. The 7-day week is uneconomic, the survey indicated, and may result in smaller production than the 6-day week. A major conclusion reached was that on the whole the 5-day week and 8-hour day gave greater efficiency than a longer work schedule, although an optimum hour schedule, even from the point of view of maximum output per hour, varies with such factors as the type of work and the degree to which the worker can control the speed of operations.

A statement issued by the WPB on June 5, 1944, summarized the experience and opinion both in the United States and abroad in regard to the relationship between hours of work and war production. The optimum day, it is stated, is admittedly variable from person to person and from industry to industry, but hours in excess of 8, and especially the 10-hour day prevailing in certain industries, are unsatisfactory as a schedule of hours for the duration of the war. The basic reason given is the cumulative effect of fatigue. The effects are apparent in (1) diminishing returns in production, (2) increased absenteeism and turnover, (3) hardship for women, especially those responsible for household duties, (4) increased illness, and (5) increased accidents. The same report states that eight government agencies have recommended, for the period of the war, the 8-hour day and 48-hour week as "the best schedule for sustained efficiency in most industrial operations."

LABOR-MANAGEMENT COMMITTEES OF THE WPB

Cooperative relations between labor, management, and Government in major fields of wartime activity continued in 1944. They are illustrated by the preceding account of the work of the WMC in the field of manpower controls and utilization. They are exemplified also by the activities of the WPB, especially by that agency's sponsorship of labor-management committees. It was announced on Nov. 12 that labor-management production committees were then operating in more than 5,000 war plants throughout the country, and that the number had increased by 500 in the preceding four months. The work of these committees, designed in general to increase production through greater management and labor cooperation, was especially important in 1944 in promoting accident prevention and safety programs. With the beginning of cutbacks upon the termination of production contracts, the labor-management committees functioned extensively in facilitating production and employment readjustments, and particularly in the shifting of workers to programs that were being stepped up when cutbacks were occurring in other types of output.

PROGRESS OF WAR PRODUCTION PROGRAM

Production in manufacturing industries was somewhat smaller (7 per cent) in November 1944 than in November 1943. This reduction was accompanied, however, by a decline of 10 per cent in the number of wage-earners employed. Manufacturing production in November 1944 was more than twice as large as the monthly average of 1939, the increase being 128 per cent. The number of wage earners in November 1944, in contrast, was only 53 per cent larger than the average for 1939. The production of minerals was 9 per cent greater in November 1944 than in November 1943, and 36 per cent greater than the average of 1939. Carloadings underwent an increase of only 1 per cent between November 1943 and November 1944, but the increase above the average for 1939 was 43 per cent.

The increase in overall production was accomplished in spite of the withdrawal of about 12,000,000 men and women into the armed services. Current production of the new war industries was possible only after a plant construction program valued at about $15,000,000,000. The production achievements required also a widespread shifting of workers from their accustomed places of work and residence and the employment of older persons, women, the handicapped, and various other classes not normally in the labor force.

CHANGES IN EMPLOYMENT AND THE LABOR FORCE

The number of persons in the labor force, including the armed forces and the unemployed, according to estimates by the Bureau of Labor Statistics and the Bureau of the Census, rose from 63,700,000 in September 1943 to 64,800,000 in September 1944. The increase was approximately double the normal addition to the labor force. The number of persons in the civilian labor force showed a net loss of 900,000 workers, the armed forces increasing by 2,000,000. The number of unemployed persons declined from 1,000,000 to 800,000, so that the net decline of civilian employed persons was 700,000. These and other details of changes in the labor force are shown in the accompanying tabulation, which also gives figures for September 1940. It should be noted that the number in the labor force is affected by seasonal factors, as for example, the quest for work in summer months by students. The figures for September, however, show the characteristic downward trend of the civilian labor force, both employed and unemployed, and the upward trend of the total labor force, civilian and military.

The munitions industries include all metal-using industries, rubber industries, selected chemical industries, and government manufacturing arsenals and navy yards. The group described as "other Government" includes State and local government and Federal Government (except war agencies, navy yards and manufacturing arsenals).

The rise in the labor force from 54,900,000 in September 1940 to 64,800,000 in September 1944 was far greater than the normal increase, and was a result in large measure of additions from groups of the population not normally in the labor force. The characteristics of persons in the labor force are indicated by a special analysis for April 1944. The increase during the four years ended in April 1944 exceeded normal expectations by almost 7,000,000. It is estimated that 2,800,000 of the extra workers were boys and girls from 14 to 19 years of age, mostly from schools and colleges. About 500,000 were young men from 20 to 24 years of age, mostly from colleges. About 400,000 were young women from 20 to 24 years of age. About 1,500,000 were women from 35 to 64 years of age, mostly married women with no young children. About 700,000 were men from 25 to 54 years of age, mostly from what may be described as the "fringes" of the labor market. About 800,000 were men of 55 years and over, most of whom had postponed retirement.

GROWTH AND DISTRIBUTION OF THE LABOR FORCE

(September 1940, 1943, and 1944)

Classification	Number in the Labor Force (millions)		
	September 1940	September 1943	September 1944
Total labor force, including armed forces	54.9	63.7	64.8
Males	41.3	45.4	46.2
Females	13.6	18.3	18.6
Armed forces	.5	9.8	11.8
Civilian labor force	54.4	53.9	53.0
Unemployed	6.2	1.0	.8
Employed	48.2	52.9	52.2
Agricultural	10.3	9.0	8.6
Nonagricultural	37.9	43.9	43.6
Munitions industries	4.4	10.2	9.3
Other manufacturing	6.9	7.4	7.0
Federal war agencies	.1	1.6	1.6
Other government	4.0	3.8	3.9
Transportation and public utilities	3.1	3.7	3.8
Construction	2.0	1.1	.7
Mining	.9	.9	.8
Trade and service	11.4	11.0	11.5
Other	5.1	4.2	5.0

The number of employed persons, including the self-employed, in the civilian labor force declined only by 700,000 between September 1943 and September 1944, but the number of wage earners in manufacturing industries alone fell from 13,935,000 to 12,802,000, a reduction of 1,133,000. Declines also occurred in the number of wageearners employed in some of the non-manufacturing industries, the number employed in bituminous-coal mining, for example, falling from 374,000 to 348,000. Further reductions occurred in manufacturing and coal mining and in some of the non-manufacturing industries between September and November, the number of wageearners employed in manufacturing in November being 12,568,000, a reduction of about 1,400,000 from the number in November 1943.

SHIFTS IN EMPLOYMENT

The predominant trends in wage-earner employment during 1944 were downward, but the reductions were extremely uneven and were accompanied by increases in certain types of employment. The reductions were especially marked in factory employment and metal mining. The nature of the changes may be indicated broadly by the statistics of wage-earner employment in metropolitan areas. Factory employment in 77 metropolitan areas had risen almost without exception during the period of the war. The index numbers of employment for September 1943, based on the average employment in 1937 as 100, show that in 14 of the 77 metropolitan areas factory employment had undergone at least a threefold increase by September 1943. These 14 areas are Dallas, Fort Worth, and Houston, Texas; Des Moines, Iowa; Jacksonville, Florida; Los Angeles, San Diego, and San Francisco, California; Norfolk, Virginia; Oklahoma City and Tulsa, Oklahoma; Portland, Oregon; Seattle, Washington; and Wichita, Kansas. With the exception of Dallas, all of these areas experienced declines in factory employment between September 1943 and September 1944. Among the 77 metropolitan areas, only seven showed increases, and seven others experienced declines of more than 20 per cent.

LABOR SUPPLY AND AGRICULTURAL PRODUCTION

Estimates by the Bureau of Agricultural Economics of the number of workers on farms indicate a slight reduction from an average of 10,263,000 in 1943 to 10,037,000 in 1944, the smallest number on record in the current employment series going back to 1909. The average number of hired workers fell from 2,406,000 in 1943 to 2,227,000 in 1944. Estimates made on a slightly different basis by the Bureau of the Census indicate that total farm employment was smaller in 1944 than in 1943 in every month from January to September.

In contrast to reduced employment in 1944 was the rise in amount of farm production. Preliminary estimates indicate that the smallest labor force on record harvested the biggest crop in the country's history.

As an aid in the maintenance of the farm labor supply, the WFA arranged for the transportation of a considerable number of workers from other countries. The number of Mexicans transported by the WFA and employed on Aug. 1, 1944, was 63,432; the number of Jamaicans was 17,649; the number of Bahamians, 5,757; the number of Newfoundlanders, 1,106; and the number of Barbadians, 906.

CHANGES IN FARM WAGE RATES

Estimates made by the Bureau of Agricultural Economics show quarterly farm wage rates of four types, namely, per month, with and without board, and per day, with and without board. The average rate per day without board for the United States rose from $3.51 in October 1943 to $4.08 in October 1944, an increase of 16 per cent. The average rate per day with board rose from $3.17 to $3.72, or 17 per cent. The average per month without board rose from $74.92 to $86.80, or 16 per cent. The average per month with board rose from $65.22 to $76.40, or 17 per cent.

The average rate per day without board ranged among the several states, in October 1944, from $2.05 in South Carolina to $8.20 in Washington. The differences in state averages reflect in part differences in types of work and degrees of skill. This is indicated by the much smaller range in piece rates, as, for example, for the picking of 100 pounds of seed cotton. That rate ranged in 1943 from $1.25 in South Carolina to $2.70 in Arizona. Other factors affecting state differences include volume of output, labor costs, sex and age of workers, available supplies of workers, and, currently, the degree of public control of farm wage rates.

Levels of farm wage rates in 1944 were exceptionally high. The average rate in October was 168 per cent higher, when seasonally adjusted, than the average of the rates for the years 1935 to 1939. The increases in farm wage rates since that period are in considerable part explained, however, by the fact that farm wage rates before the war had undergone a much smaller increase than had wages in most of the other fields of employment, and a smaller increase also than had most of the other kinds of income. The average farm wage rate in the years 1935 to 1939 was only 18 per cent above the average for the years 1910 to 1914.

CONTROL OF FARM WAGES

A public policy tending indirectly to restrict the upward movement of farm wages was the deferment of farm workers under conditions requiring them to remain on farms. Authority for direct controls was given to the Secretary of Agriculture in 1942 and later delegated by the Economic Stabilization Director to the War Food Administrator. Controls assumed three forms: wages could not be reduced without the approval of the War Food Administrator below the highest rate paid between January 1 and September 15, 1942; a general maximum of $2,400 per year was established; and specific maximum rates were set for particular groups and areas.

The maximum of $2,400 per year had extremely limited applicability even after it was redefined in terms of "$200 a month or the equivalent weekly, hourly, piece-work rate, or comparable basis." More important were the provisions for establishing specific maximum rates for particular groups and areas. State agricultural wage boards were appointed where necessary to hold public hearings and assist in the establishment of specific wage ceilings and in the fixing of penalties for violations by either employers or employees. Specific wage ceilings established in 1944 included haying in the Imperial Valley and in 11 California counties; picking potatoes in two California valleys and in two Idaho areas; asparagus work in various areas; picking apricots and peaches in California areas; lettuce harvesting in the Santa Maria Valley, California; dairy work in the Los Angeles metropolitan milk shed; citrus harvesting in Florida and California; and pruning fruit and nut trees in California. Maximum prices were fixed for independent contractors hiring 25 or more cotton pickers in Arizona. Wage regulations in the sugar-beet and sugarcane industries were predominantly in the form of minimum rates, although wage ceilings were set for sugar-beet harvest labor in two Idaho areas.

RAILROAD WAGE ADJUSTMENTS

Disputes between the railroad carriers and their employees originated late in 1942, extended over the whole of 1943, and reached the stage of final adjustment in January 1944. Because of the distinctive nature of the railroad wage structure, the emergency boards appointed under the National Railway Labor Act experienced difficulty in meeting the requirements of the wage stabilization program as applied in other industries. Late in 1943, the unions, in accord with procedures authorized by the National Railway Labor Act, took strike votes and fixed a strike date. The President on Dec. 19 intervened and offered his services as arbitrator.

The President, on Dec. 27, made an award affecting the locomotive engineers and trainmen, whose two unions had formally accepted arbitration. The award included the 4 cents per hour, or 32 cents per basic day, which had been recommended by the emergency board as in accord with the Little Steel formula. In addition, the President granted 5 cents per hour "as the equivalent of or in lieu of claims for time-and-half pay for time over 40 hours and for expenses while away from home." He also awarded a vacation of one week per year with pay. It was stated that these increases were to be paid until the end of the war. The Locomotive Firemen and Enginemen, the Railway Conductors, and the Switchmen's Union, which had not immediately agreed to arbitration, raised a question as to whether or not this award had "frozen" wages for the duration of the war. On Dec. 31 a clarification of the award stated that the limitation of the award to the period of the war applied only to its provisions relating to overtime, away-from-home expenses, and vacation pay. On Jan. 14, 1944, an agreement was concluded for extending the award of Dec. 27 to the other operating employees, but these later awards contained a specific reservation of the right to reopen the question of changes in basic wage rates and also a clause providing for the use of the procedures of the Railway Labor Act in future disputes.

The emergency board in the dispute of the non-operating employees had recommended an increase of 8 cents per hour. A final settlement of this dispute was not reached until Jan. 17, when an agreement made between the parties was approved by the Office of Economic Stabilization. The agreement provided for graduated basic wage increases of 10 cents per hour for employees receiving less than 47 cents; 9 cents per hour for employees receiving 47 cents and less than 57 cents; 8 cents for those receiving 57 cents and less than 70 cents; 7 cents for those receiving 70 cents and less than 80 cents; 6 cents for those receiving 80 cents and less than 90 cents; 5 cents for those receiving 90 cents and less than 97 cents; and 4 cents for those receiving 97 cents and over. The agreement, however, provided also for a reversed graduated scale of payments in lieu of overtime. The first three groups above (those receiving less than 70 cents) were granted 1 cent per hour in lieu of overtime. Compensation in lieu of overtime pay for the groups receiving 70 cents and more ranged upward from 2 cents to 5 cents per hour. As a net result, all of the employees receiving 70 cents and more obtained an aggregate increase of 9 cents per hour, and those receiving less than 70 cents received increases ranging from 9 to 11 cents, the increases of more than 9 cents per hour being limited to employees receiving less than 57 cents. Non-operating employees, unlike the operating groups, had already obtained concessions from the carriers for paid vacations.

On Jan. 18, 1944, the railroads were returned to the carriers.

WAGE ADJUSTMENTS IN COAL MINING

The wage agreements reached by the United Mine Workers and the Government late in 1943 provided for emergency wage adjustments under government operation of the mines. The agreement called for the adding of one hour per day at overtime rates to productive time in bituminous-coal mining and also for payment for travel time in the mine. It was tentatively agreed that the amount of travel time to be allowed was 45 minutes per day, but the President, late in 1943, appointed a committee to obtain further information regarding the actual amount of travel time. A ruling by the Attorney General, on Jan. 14, 1944, stated that the continuance of government operation of the mines was permissible under the War Labor Disputes Act on the ground that return of the mines to the owners when contract negotiations were not completed might lead to further interference with productive efficiency. The agreement of Nov. 3, 1943, between the Government and the union for the anthracite industry provided for an increase of 32 cents per day and additional pay for a deduction of 15 minutes from the lunch period.

The President's committee, appointed to secure further information as to actual travel time in bituminous-coal mining, made its final report on May 24. The committee found that in general the average number of minutes from portal to place of employment was 29.40 minutes, and the average from place of employment to portal was 27.89 minutes, the daily average travel time from portal to portal being 57.29 minutes. The average ranged from 34.68 minutes in the Southwestern District to 84.09 minutes in the West Virginia Panhandle District.

An agreement was signed by the union and the anthracite operators on March 8, 1944, embodying substantially the same terms as those in the agreement of Nov. 3, 1943, between the union and the Government. This agreement, calling for an aggregate increase of 37.8 cents per day, was approved by the National War Labor Board on April 8, 1944.

An agreement reached between the United Mine Workers and coal operators producing more than 70 per cent of the bituminous-coal tonnage was submitted on Dec. 17, 1943, to the NWLB. The Board withheld approval of the agreement pending clarification by the President's committee of the question of travel time in the mines. When the committee reported that actual travel time was significantly larger than the 45 minutes per day which had been assumed in the agreement, the Board decided that the difference of approximately 12 minutes per day in the amount of travel time was reasonably within the principles of its former decisions and consequently could be approved for private operation of the mines. It was pointed out that any reduction of travel time would add to the productive time of mine workers and that operators would, therefore, take any practicable steps to reduce travel time. The Board, therefore, on May 19, approved the agreement, but stated that its acceptance by the producers was voluntary.

The producers who had not accepted the agreement (the members of the Southern Coal Producers' Association) decided to do so on June 16. On June 21 an order was issued by the Secretary of the Interior for the return of the coal mines to the private operators.

CHANGES IN HOURLY EARNINGS OF NON-FARM WORKERS

The average hourly earnings of factory workers underwent comparatively little change in 1944, the increase between October 1943 and October 1944 being 4.4 per cent. The average in October 1944 was $1.031. Increases in average hourly earnings occurred in all non-manufacturing industries covered by the Bureau of Labor Statistics, the advances ranging from 1.6 per cent in metal mining to 11.4 per cent in anthracite mining. There were increases of 10.4 per cent in power laundries, 10.8 per cent in cleaning and dyeing, 9.3 per cent in the telegraph industry, and 8.1 per cent in hotels. The various other non-manufacturing industries experienced smaller increases. Average hourly earnings in steam railroad transportation rose from $0.839 in September 1943 to $0.936 in September 1944, or 11.6 per cent. The average for September 1943 does not include certain retroactive payments under agreements ratified early in 1944. There had been no increase in railroad wage rates since 1941.

Increases in average hourly earnings in the separate manufacturing industries between October 1943 and October 1944 were largest in the nondurable-goods industries, the average increase for this entire group being 6.6 per cent, as compared with the general average of 4.4 per cent. The largest increase in any manufacturing industry was 17.2 per cent, in curtains, draperies and bedspreads. Other increases of 10 per cent or more occurred in jewelry, workshirts, women's clothing, millinery, leather gloves and mittens, cigars, and cottonseed oil.

There was no change in the average hourly earnings of factory workers between September and October 1944. There were slight declines in bituminous-coal mining, metal mining, crude petroleum production, and the telegraph industry, and declines in a large number of the separate manufacturing industries.

CHANGES IN WAGE RATES

Changes in average hourly earnings are caused by numerous factors in addition to changes in basic rates of wages. These factors include, among others, changes in the proportion of overtime work at premium pay; changes in the relative importance of individual industries, companies, establishments, regions, and localities with different levels of wages; changes in the extent of extra-shift work at premium pay; and changes in the output of workers paid on an incentive basis. Changes in average weekly earnings are affected also by changes in the weekly hours of work.

The wage stabilization program necessarily applied primarily to the basic rates of wages paid for a normal hour of first-shift work at straight time, or to the basic piece rates when compensation is on a piece-rate basis. Thus the wage stabilization policy is analagous to the policy of stabilizing prices, the policy in the price field having to do with the amount received per unit sold rather than with the quantities sold or other considerations.

A study of wartime wage movements, made by the Bureau of Labor Statistics in 1944, afforded for the first time a measure of wage-rate changes as such for comparison with the well-known measures of average earnings. The study relates to urban factory wage rates during the period from January 1941 to April 1944. The gross average hourly earnings of factory workers during that period rose 48.2 per cent, in contrast to a rise of only 27.5 per cent in urban factory wage rates. Prior to the stabilization act of 1942, urban factory wage rates had been rising 0.8 per cent per month for 21 months. During the year following the Stabilization Act the increase averaged 0.6 per cent per month. For the period from October 1943 to April 1944 the rate of increase dropped to 0.3 per cent per month, and the evidence indicates only slight advances in basic rates between April and October 1944.

"SPENDABLE" EARNINGS

The term "take home wages" has frequently been used to describe the average weekly earnings published by the Bureau of Labor Statistics. A study made by that agency shows that this popular description of its average weekly earnings series was never entirely accurate, because the published averages relate to gross weekly earnings before deductions have been made. These deductions, as for group insurance, occupational supplies, and union dues, were until recently small in aggregate amount and were seldom subject to significant change. Two recent developments, however, depressed the level of currently available "spendable" earnings. These developments were the widespread sale of war bonds beginning in 1942, and the sharp rise in 1943 of personal taxes at the income levels of wage earners. The appropriate comparison to show war levels of living would appear to be between living costs and "spendable" earnings rather than gross weekly earnings.

The study mentioned above shows that, although the average gross weekly earnings of factory workers rose 68.4 per cent between January 1941 and October 1943, the net "spendable" earnings of a wage earner supporting an adult and two children rose only 44.8 per cent. When the Bureau of Labor Statistics cost-of-living index is used to adjust the net "spendable" earnings, the addition to "spendable" earnings between January 1941 and October 1943 was only $4.58. In the case of a single worker receiving the average gross earnings of factory workers, net "spendable" earnings rose only 24.2 per cent, as compared with the rise of 23.4 per cent in the cost-of-living index, and if the single worker received the average wage of employees in the non-durable goods industries, his net "spendable" earnings increased only 16.1 per cent, materially less than the rise in cost of living. In some industries, including, for example, newspapers and machine tools, single workers receiving the average gross weekly earnings of those industries experienced declines in net "spendable" earnings, even without regard to the increase in the cost of living.

There was comparatively little change in the net "spendable" earnings of factory wage earners between October 1943 and September 1944. The average for a family of four whose wage earner received the gross average for all manufacturing industries was $38.19 in October 1943 and $39.14 in September 1944. The net "spendable" earnings of a single worker receiving the general factory average rose from $32.76 in October 1943 to $33.71 in September 1944. The Bureau's cost-of-living index rose 1.7 per cent, so that there was little change in the purchasing power of net "spendable" earnings.

The increases in gross weekly earnings during the period of the war were brought about in considerable part by the longer work week, and other factors that reflect in large measure additional efforts and additional contributions to production.

SUBSTANDARD WAGES

There was no general agreement regarding the dividing line between standard and substandard wages, but the NWLB as a general rule permitted adjustments up to 50 cents per hour for remedying substandards. A resolution by the labor members of the Board, presented to the Board on Dec. 23, 1944, stated that evidence obtained from a study of family budgets in relation to standards of living indicated that 72 cents per hour "is the minimum wage necessary for a wage earner to maintain a family of four at a bare subsistence level." It was recognized that differences in prices and community conditions affect the standard, but it was held that the general average was 72 cents. The labor members of the Board contended that the Board had not adequately recognized the problem of substandards in its handling of cases involving substandards. The Board was urged by the labor members to adopt a resolution establishing 72 cents an hour as the straight-time hourly rate below which any rate would be considered substandard.

Estimates by the NWLB indicated that in January 1944 there were more than 1,000,000 factory workers with straight-time wage rates below 50 cents, the total number of wage earners in manufacturing at that time being 13,656,000. It was estimated also by the Board that in retail trade 3,235,000 workers out of a total of 4,689,000 in January 1944 were receiving straight-time rates of less than 50 cents per hour. The estimated number receiving less than a straight-time rate of 50 cents per hour was 6,029,000, or 22 per cent of all non-agricultural employees covered by the analysis. The study included workers in manufacturing, mining, and construction, in transportation, communication, and public utilities, in retail and wholesale trade, in finance, insurance, and real estate, and in services. The proportion of workers receiving straight-time rates of less than 70 cents per hour was 45 per cent of the employees included in the study.

A sub-committee of the Senate Committee on Education and Labor recommended to the NWLB a modification of its regulations to permit increases in the earnings of white collar workers. It was proposed that increases be permitted without specific approval up to $200 per month for workers with dependents and up to $150 for single workers.

CHANGES IN PRICES AND COST OF LIVING

The Bureau of Labor Statistics index of wholesale prices of all commodities underwent little change in 1944, the rise between November 1943 and November 1944 being 1.5 per cent. The largest increase in the major groups was a rise of 4.5 per cent in chemicals and allied products, the increase in this group being mainly due to a rise of 31.5 per cent in drugs and pharmaceuticals. The increase for building materials was 2.9 per cent, and for farm products, 2.5 per cent, the major increase in the farm products group being a rise of 5.4 per cent in prices of livestock and poultry. Prices of the food group fell 0.7 per cent, the major decline being 4.1 per cent for fruits and vegetables. The all-commodities index in November 1944 was 29.6 per cent above the general average for the years 1935-39, as compared with a rise of 26.5 per cent in the index of cost of living.

The Bureau of Labor Statistics index of cost of living in large cities (described by the Bureau as indicating average changes in retail prices of selected goods, rents, and services bought by families of wage earners and lower salaried workers in large cities) was 1.9 per cent higher in November 1944 than in November 1943, 25.5 per cent higher than in January 1941, and 28.3 per cent higher than in August 1939. The increases between November 1943 and November 1944 in the cities covered by the Bureau's cost-of-living surveys ranged from 0.6 per cent in Buffalo, N. Y., and Houston, Tex., to 3.1 per cent in Baltimore, Md. and San Francisco. The major items in the cost-of-living index showed considerable variations in the extent of change during the year. The food index showed a decline of 0.6 per cent, after exceptionally large earlier increases. Rent remained substantially unchanged, rising 0.2 per cent. Fuel, electricity, and ice rose 1.9 per cent; the miscellaneous group, 4.2 per cent; clothing, 6.2 per cent; and house furnishings, 11.4 per cent. The overall increase of only 1.9 per cent reflects the major importance of food and rent.

THE COST-OF-LIVING CONTROVERSY

Dissatisfaction with the cost-of-living index, especially as a device for stabilizing wages, led to the appointment by the President, on Nov. 5, 1943, of a committee of the NWLB for a further study of the Bureau's work in the field of cost of living. The two labor members of the committee submitted to the committee, and released to the press, at the end of January 1944, a report (the Meany-Thomas report) which stated that living costs had increased 43.5 per cent from January 1941 to December 1943 instead of the 23.4 per cent shown by the Bureau's index.

The chairman of the President's committee announced, in April 1944, that he had appointed an advisory committee of statistical experts under the chairmanship of Prof. Wesley C. Mitchell of Columbia University to examine the entire question. The report of this committee, made public in June, stated that the committee's examination of the methods used by the Bureau of Labor Statistics and the other information gathered "leads us to conclude that the Bureau of Labor Statistics has done a competent job, under very difficult market conditions, in providing a measure of price changes for goods customarily purchased by families of wage earners and lower salaried workers living in large cities." The report stated that some factors in the wartime price situation probably are not completely represented in the index, the most important being upgrading and quality deterioration. The committee estimated that when these and other factors are considered, the increase in average prices charged wage earners and clerical workers from January 1941 to December 1943 may have been as much as 25.9 per cent and could not have been more than 27.4 per cent, as compared with the rise of 23.4 per cent in the Bureau's index. Some of the estimates of wartime factors were described by the committee, however, as necessarily "little more than crude guesses." The committee in conclusion stated that it had little advice to offer for improving the methods used by the Bureau.

A further report by the president of the CIO and the president of the UAW, entitled "Living Costs in World War II, 1941-1944," was released on June 26. This report maintained substantially the same position as that of the earlier report by the labor members of the President's committee.

On Nov. 17, 1944, the chairman of the President's committee submitted his report on changes in the cost of living since January 1941. The report relied largely on the analysis by the Mitchell committee of experts for an evaluation of the differences between the changes shown by the Bureau of Labor Statistics index and the Meany-Thomas report. The chairman's report concluded that the accuracy of the Bureau of Labor Statistics index figures, for what they are intended to measure, is confirmed. It was further stated that "no substantial criticism of the Bureau of Labor Statistics methods has survived the searching studies presented to this committee," but that minor improvements could be made if the Bureau had more ample funds.

It was emphasized that one of the causes of the controversy was a difference in the interpretation of the term cost of living. The Bureau, it was stated, never has tried, and does not now try, to measure the cost of living in the sense of the total amount of family expenditures, these expenditures varying not only with price changes but with changes in available income and various other circumstances. "The thing measured by the Bureau of Labor Statistics index is the change from time to time in the aggregate cost of a fixed typical family market basket, so that urban workers may know whether their wage dollar has kept its real value in the market."

ATTACK ON LITTLE STEEL FORMULA

Criticism of the cost-of-living index was used to reinforce the attack on the Little Steel formula, which remained in 1944 the main bulwark against general changes in the wage structure. It was held that there was a downward bias in the cost-of-living index which tended to minimize the divergence of the trends of cost of living and wages.

The attack on the Little Steel formula was a major point of agreement between the AFL and the CIO, but the two organizations differed in their approaches to the problem. The AFL emphasized the more general nature of the problem and filed a petition with the NWLB calling for a general revision of the formula. The CIO emphasized the need for revision in specific instances, and notably in connection with the Board's case involving steel workers.

The AFL petition of Feb. 9, 1944, stated that the basic assumption of the Little Steel formula, namely, that both cost of living and wage rates would be substantially stabilized at the levels of January 1941, was an erroneous assumption. It was further stated that the "inequity" of the formula had become self-evident on the basis of the Bureau of Labor Statistics cost-of-living index, which showed an increase not of 15 per cent but of 23.4 per cent in living costs. The views of labor organizations that the actual increase in living cost had been much greater were set forth as providing an additional basis for revision of the formula to compensate workers "for the ever widening disparity between wage rates and prices."

The CIO made use of substantially the same arguments but presented the problem to the Board specifically in the form of wage disputes, notably that of the steel workers and the basic steel industry.

THE STEEL CASE BEFORE THE NWLB

A National Wage and Policy Conference of the United Steel Workers, held on Dec. 1-2, 1943, approved a "22-point program" of proposed changes in its agreements with the companies, and on Dec. 4 requested collective bargaining conferences. It was apparent that no agreement could be reached before the expiration of the contracts and that in any case approval by the NWLB would be necessary. The union, therefore, requested the Board to issue an interim order extending the contracts, with a provision for retroactivity of any wage adjustments. At a hearing before the Board the companies opposed the retroactivity demand and contended that no further wage adjustments were allowable under the existing stabilization program. This controversy over retroactive wages resulted in a brief shutdown of a large part of the industry late in December 1943.

The major demands by the union included an increase of 17 cents per hour, a guaranteed annual wage, elimination of wage-rate inequities based on "equal pay for similar work throughout the industry," shift differentials, paid vacations, sick leave, the establishment of a fund for steel workers in the armed forces, and dismissal or severance pay. Certain counter demands were made by some of the companies, notably the demand that the existing maintenance-of-membership provision of the contract be eliminated.

The Board issued its directive order on Nov. 25, 1944. The order refused to grant the increase of 17 cents as being contrary to the Little Steel formula. It also refused to grant the demand of some of the companies for the elimination of maintenance of membership, but certain limitations were approved, notably the requirement that the check-off should be restricted to $1.50 for monthly dues and $3 for the initiation fee. Other demands were either rejected or granted in qualified form.

The wage adjustments approved by the Board included shift differentials of 4 cents per hour for the second shift and 6 cents for the third shift. In as much as a considerable part of the industry operates on a three-shift basis, the shift differentials affect a large proportion of the employees. The demand for the elimination of wage-rate inequities was met by the approval of arrangements between the union and the companies for adjusting intraplant inequities in rates subject to general rules laid down by the Board, and subject to supervision by a commission under the Board's jurisdiction. It was ordered that any one company's maximum increase for remedying inequities should not exceed an amount equivalent to an average of 5 cents per hour for all its employees covered by the order. Vacation pay was approved to the extent of one week after one year's service and two weeks after five years' service. The Board also approved "reasonable sick leave plans," such as might be agreed to by the parties, "reasonable group insurance plans" as worked out by the parties, and plans for negotiated arrangements for dismissal or severance payments. As for the demand for a guaranteed annual wage, the Board recommended to the President the creation of a commission to study the proposal on a national scale.

The Board's decision was accepted by the union and described as a "tremendous victory" by union officials, who were directed, however, to continue their efforts to secure a revision of the Little Steel formula. The companies petitioned for reconsideration. Pending possible revision of the Little Steel formula, the decision was widely viewed as opening the way for settlement of numerous other cases, notably those affecting the electrical, meat packing, textile, aluminum, and automobile workers.

WORK STOPPAGES

Preliminary estimates by the Bureau of Labor Statistics indicate 4,950 strikes in 1944, with 2,100,000 workers involved and 8,500,000 man-days of idleness. Idleness amounted to one-tenth of one per cent of the available working time. About 7.4 per cent of the employed wage earners in the country were involved in strikes during the year, and these were idle four days on the average. The number of strikes was exceptionally large; their duration was exceptionally short. The number of man-days of idleness was smaller than in 1943, and idleness from strikes as a percentage of available working time was also greatly reduced. There were no extremely large strikes in 1944, such as the coal mining strikes of 1943.

The most common issue involved in strikes in 1944 continued to be wages, but the proportion of workers striking for this reason dropped somewhat from the level of 1943. The number striking for union organization purposes increased, much of this increase owing to the drive for recognition of unions of foremen and other supervisory workers. Strikes over plant working conditions continued to increase in importance.

While the number of strikes of supervisory workers and foremen was not large, they involved about 100,000 workers and more than 600,000 man-days idle—over 7 per cent of the total idleness for the year. The largest of these strikes occurred in Detroit in May when the stoppage of foremen, demanding recognition for the Foremen's Association of America, involved over 50,000 workers, mostly nonsupervisory workers rendered idle by the stoppage of the foremen. A series of strikes in the bituminous coal mines of Pennsylvania, West Virginia and Kentucky in August and September involved 10,000 workers when gang bosses and other supervisors sought recognition of the United Clerical, Technical, and Supervisory Employees' Union, a division of District 50, UMWA. A demand for recognition of the Wright Aircraft Supervisors' Association (independent) caused considerable idleness at several New Jersey plants of the Wright Aeronautical Corporation in November.

Among the wage disputes, a strike of 30,000 workers in the northwestern lumber industry was in protest against NWLB denial of a wage increase. A strike in October involving 50,000 workers at Detroit was in protest against wage differentials between two groups of plant maintenance workers. A stoppage of over-the-road truck drivers in several midwestern states in August was called to force adoption of a wage schedule approved by the NWLB. The strike of telephone workers in Ohio, Detroit, Mich., and Washington, D. C. in November stemmed from dissatisfaction with wage rates.

Maintenance of membership was the issue in strikes at the Montgomery Ward Company's Chicago and Kansas City plants in April, their Hummer Manufacturing Company plant at Springfield (Ill.) in May, and in strikes at Detroit, Chicago, and Kansas City operations in December. Failure to pay wage rates ordered by the NWLB was also a factor in the December dispute.

Two large and important strikes, one of employees of the Wright Aeronautical Corporation, Lockland, O., and the other of Philadelphia transportation workers, involved the upgrading of Negro workers to skilled positions. The stoppage at Philadelphia was promoted by a company union which had previously lost an election that resulted in favor of a

CIO union. About 15,000 workers were involved in these cases.

Four of the larger strikes in 1944 stemmed from rival union disputes. One occurred at several plants of the Chrysler Corporation in Detroit in May and the others were at Detroit and Toledo in February, October, and November. The unions involved in each of these were the Mechanics Educational Society of America and the UAW-CIO.

In connection with 15 strikes during 1944, the Federal Government took over plants or facilities and operated them for short periods. In most of these, government operation was for the purpose of securing company or union compliance with NWLB decisions.

FEDERAL LAWS AFFECTING LABOR

A major Federal act was the War Mobilization and Reconversion Act, passed late in 1944, creating the Office of War Mobilization and Reconversion and an advisory board of 12, with labor, management, and agriculture each having three representatives on the board. A Retraining and Reemployment Administration was established in the OWMR to supervise all Federal agencies, except the Veterans Administration, having to do with retraining, reemployment, vocational education, and vocational retraining. Loans to the states were authorized for unemployment compensation purposes. This act was strongly criticized by labor organizations, the unions favoring a bill which included special unemployment compensation benefits in the transition period to take care of unemployed workers as well as discharged servicemen, and which went much farther than did the bill actually adopted in recognizing the role of labor in the handling of post-war problems.

Congress had already passed, in June, the Servicemen's Readjustment Act (the "GI Bill of Rights") providing for unemployment benefits for veterans up to 52 weeks, educational opportunities, loans, and special employment service facilities.

Other Federal measures affecting labor extended the authority of the NLRB over contracts with company unions; required that the procedures of the Railway Labor Act be followed in disputes between employers and carriers subject to the act; provided expenses for the carrying out by the Fair Employment Practices Committee of any functions "lawfully" vested in the committee by executive orders; extended the Sugar Act of 1937, which provides for minimum wage determinations in the sugar-beet and sugar-cane industries; and appropriated $30,000,000 for the use of the War Food Administration in the recruiting, training, and placing of agricultural workers and in maintaining transportation, health, housing, and other facilities for these workers.

STATE LABOR LAWS

General.—There were few important changes in state labor laws during 1944. The legislatures of only eight states met in regular session, and the special sessions convened in some other states dealt primarily with matters other than labor.

Workmen's Compensation.—The greater part of the laws enacted during the year dealt with workmen's compensation and provided for increased benefits, extension of coverage, or better administration of the laws. In New York, 18 amendments to the workmen's compensation law were adopted, including provisions for increasing benefits, extending the coverage, curbing kick-backs, and stopping "medical racketeering." In Louisiana the benefits for medical, hospital, and burial expenses which an employer is required to furnish were increased. In South Carolina a fund was provided for injury and death benefits to state, county, and municipal employees. In New Jersey and Kentucky, the provisions relating to occupational diseases were strengthened, and a Virginia law brought to 28 the number of states now having workmen's compensation for occupational diseases.

Child Labor.—There were further

relaxations of standards with regard to child labor and hours of work, as in Louisiana and Kentucky. The National Child Labor Committee stated in its fortieth anniversary report that only 14 states prohibit employment during school hours for children under 16 years of age. (See "Child Labor," pp. 644-50). A Virginia law extended the permissible hours of women engaged in war work.

Wages.—The outstanding wage legislation of the year was enacted in New York. One law, the fifth law of its kind passed by the states, prohibits in most fields of employment any discrimination in rates of pay because of sex but exempts various groups. New York also extended to men the benefits of the minimum wage law by prohibiting the employment of men at less than the minimum rate established for women and minors in occupations covered by wage orders.

Union Membership and Contracts.—Two states, Florida and Arkansas, adopted, by referendum, constitutional amendments designed to prevent the closed shop or to make invalid the maintenance-of-membership clauses in union contracts. The Arkansas amendment, which also prohibits a check-off of union dues without the consent of the worker, will not be in force until the state legislature passes an enabling act. Steps were taken by unions to test the amendments in the courts. Officials of the NWLB took the position that Congress did not intend to subject Federal action to local controls and indicated that they would continue their maintenance-of-membership policy regardless of state laws forbidding such union security clauses.

DECISIONS AFFECTING LABOR

General.—Several state legislatures before 1944 had passed laws designed to regulate the activities and restrict the functions of labor unions. These laws were viewed by unions not only as unwarrantably interfering with the major functions of unions but also as invading the constitutional rights of workers. Vigorous action was taken by leading unions to test many of the laws. Actions in state courts were for the most part subject to final adjudication in the Federal courts, and some of the cases were already, at the end of the year, pending in the United States Supreme Court.

Individual Bargaining.—A number of Supreme Court decisions limited individual bargaining and strengthened the position of unions as bargaining agents. These decisions included the J. I. Case Company, the Railway Express Agency, the Franks Brothers Company, and the Medo Photo Supply Corporation cases. The decision in the J. I. Case Company case, in February, upheld the main provisions of an NLRB order for directing the company to bargain with a union. The company had refused to sign an agreement with the union officially certified as bargaining agent on the ground that it had made prior individual contracts with its employees. The opinion of the court stated: "Individual contracts, no matter what the circumstances, may not be availed of to defeat or delay the procedure prescribed by the National Labor Relations Act, nor to forestall bargaining, nor to limit the terms of a collective agreement." In the Medo Photo Supply Corporation case, decided in April, the Court held that the granting of special advantages outside of the collective agreement was an unfair labor practice because it tended to weaken the union by linking the advantages to withdrawal from the union.

Coverage of Federal Labor Laws.—A number of United States Supreme Court decisions defined and significantly extended the coverage of the National Labor Relations Act and other Federal labor laws. The decision in the Polish National Alliance of U. S. case, rendered in June, held that insurance is interstate commerce and that those engaged in it are subject to regulation under various Federal acts. The court in April, in refusing to review an NWLB order against the Baltimore Transit Company, which had claimed exemption on the ground that its business was intrastate, affirmed the view of the Board that the company's business is interstate because it gets its power over interstate lines. In the Hearst Publications case the court upheld the NLRB in certifying a union representing newsboys as bargaining agent. The decision was significant in respect to the definition of newsboys as "employees" and not "independent contractors" within the meaning of the National Labor Relations Act. A case decided by a California court in August held that a municipality is required, like a private individual, to engage in collective bargaining with its employees engaged in bus driving.

Labor Standards.—Among the Supreme Court cases involving the administration of the Fair Labor Standards Act was a decision, in June, declaring invalid the administrator's definition of "area of production." The act exempts from the overtime provisions employees engaged in certain types of processing of agricultural commodities "within the area of production as defined by the administrator." His definition, it was stated, had included limitations as to the number of employees of a given employer in an area of production and had thus discriminated "between smaller and bigger establishments within the zone of agricultural production." The Court concluded that the administrator had authority under the act to redefine the "area of production." Another decision, in November, declared invalid the methods for avoiding overtime premium payments under the Poxon plan, so called from the name of its supposed originator. A contract adopted after the act was passed arbitrarily divided each shift or tour into two parts for bookkeeping purposes, paying for the hours in the first part at an agreed "base rate" and for the hours in the second part at "overtime" or one and one-half times the "base rate." The "base rate," however, was so calculated that, when combined with the "overtime rate," the resulting total compensation for the shift was the same as before the change in the method of calculation. Another decision, in March, upheld a lower court decision requiring the inclusion of travel time in iron mines in the calculation of compensable overtime under the Fair Labor Standards Act. This decision was used by the United Mine Workers as the basis for demanding the inclusion of travel time in the agreements in the coal-mining industries.

NWLB Orders.—The Supreme Court in a decision rendered in October upheld the NWLB in its contention that the orders of that agency are not subject to judicial review. The decision had a bearing on enforcement procedures in obtaining compliance with NWLB orders, notably in the Montgomery Ward case, the Board holding that enforcement of its orders was a function of the President.

Negro Railway Employees.—Two decisions rendered in December by the Supreme Court upheld the rights of Negro employees on railroads under the National Railway Labor Act. The opinions held that the railroad unions and the carriers had entered into agreements which sought to drive Negroes from their jobs or to deny them promotions. Negroes, it was stated, form a part of the "crafts" of railroad workers. "Unless the labor union representing a craft owes some duty to represent non-union members of the craft, at least to the extent of not discriminating against them as such in the contracts which it makes as their representatives, the minority would be left with no means of protecting their interests or, indeed, their right to earn a livelihood by pursuing the occupation in which they are employed." Another decision, in June, involving an official of the International Union of Operating Engineers, affirmed the official's conviction for contempt for refusing to produce union records subpoenaed by a grand jury. The Court held that the constitutional privilege against self-incrimination is personal and not applicable to an organization's records. The opinion stated, however, that the Court was expressing no opinion on the broader questions of whether labor unions would be viewed for other purposes as legal entities.

ANNUAL CONFERENCE ON LABOR LEGISLATION

The National Conferences on Labor Legislation, originated by the Secretary of Labor, have considered during the past decade the common interests and needs of the states and of Federal agencies in the field of labor legislation and administration, and have been designed to promote cooperative Federal-state relations in those fields. At the Eleventh National Conference, which met in Washington Dec. 12-14, official representatives of 36 states and of Alaska and Hawaii were in attendance.

Various committees dealt with such problems as state regulation of wages, hours, and homework; child labor and youth employment; safety and health and workmen's compensation; migratory labor; industrial relations; and the strengthening of state labor departments. The committees adopted, and the Conference approved, vigorously worded reports designed to aid in the strengthening of laws and administrative policies.

One of the resolutions adopted by the Conference proposed amendments to the Social Security Act for the purpose of extending the coverage, increasing the benefits, and including health insurance. Another resolution endorsed the principles of an annual wage. The U. S. Department of Labor was urged to make a survey of the experiences of companies in that field, to analyze the problems and advantages of such plans, and to make available such information as would facilitate labor-management cooperation in the extension of such plans. The Conference expressed vigorous opposition to what has been called the women's equal rights amendment to the Constitution. In addition to the statement that the proposal would not accomplish the purpose for which it is intended, the Conference urged its defeat on the ground that it would "wipe out all remedial legislation for women, passage of which in the various States has been secured at the cost of great effort and sacrifice." Still another resolution urged state legislatures to require employers to grant to employees, upon their request, up to four hours' leave with pay for the purpose of enabling them during elections to go to the polls and cast their votes.

The Conference also recommended the consolidation of Federal functions in the field of labor administration in the Department of Labor. Action of this kind had been advocated by the Secretary of Labor, had been made a plank of the 1944 platform of the Republican party, and had been favored by labor organizations. The Conference also urged the similar consolidation of state agencies in relation to state functions, and recommended the continuance of efforts to promote a more satisfactory coordination of Federal-state relations.

Impetus was given by the Conference to advance consideration of legislation at the 44 regular sessions of state legislatures in 1945. These bodies were expected to deal with vital transitional and post-war policies.

EFFORTS TO EXTEND SOCIAL SECURITY LEGISLATION

A bill introduced in 1943 by Senators Wagner and Murray and by Congressman Dingell proposed various amendments to the present Social Security Act, including, as a major departure, an extensive health insurance program. Proposals by the Conference on Labor Legislation, by labor organizations, by officials of the Social Security Board, and by various private organizations, although not in agreement as to details, included several far-reaching amendments. It was widely urged, in respect to old age insurance, that the benefits should be liberalized, that compensation should be made available for permanent or long-time disability on the same basis as for retirement, and that benefits should be made available to workers not now covered, including the self-employed.

As for unemployment compensation, most of the proposals called for an extension of coverage to include virtually all groups of workers. Many of the proposals, particularly those by the unions, advocated increases in the amount of benefits and an extension of the duration of benefit payments. Various disqualifying provisions of state unemployment compensation systems were viewed as tending unjustly to deprive workers of their benefits. Experience-rating provisions of many of the state systems were criticized as impairing the unemployment compensation funds. Many proposals favored the nationalizing of the systems for preventing the impairment of benefits when workers change jobs or places of residence and for maintaining uniformity and adequacy of benefits.

The development of a national health insurance program was strongly favored by the AFL, the CIO, and other labor organizations, and also by various other agencies both private and public. A noteworthy plan was proposed by the Committee on Research in Medical Economics, nationwide in scope. This committee was composed of physicians in private practice; members of the staffs of medical schools, hospitals, and public health agencies; administrators from public and private agencies; economists; and representatives of the AFL and the CIO. The proposals of the committee would require compulsory contributions from employers, employees, and self-employed persons, supplemented by public aid to insure the protection of families with insufficient income for adequate protection on a contributory basis. The plan called for a national system, but with decentralized administration, local responsibility, recognition of voluntary health insurance plans, and the determination of policy by groups in which both the public and the medical profession would be represented.

Various proposals were made in fields related to the social security program, as, for example, the adoption of special provisions for civilian workers affected by reconversion from war to peace production. It was urged that workers in temporary war jobs, as well as members of the armed forces, merited public provisions for assisting them during the transitional period in cases of special difficulty in making readjustments. Knowledge that such aid, if needed, would be available would tend to keep war workers from prematurely leaving their temporary jobs in quest of work in peacetime industries.

INTERNATIONAL LABOR ORGANIZATION

The ILO which since 1940 has had offices in Montreal, held its 1944 convention in Philadelphia from April 20 to May 12. There were 41 nations represented, including governments in exile. Two major topics were given special consideration at the convention. One of these was the future policy, program, and status of the ILO. The other topic comprised recommendations to the United Nations for present and future policy. These recommendations centered around the "war against want and unemployment" as a major goal of the United Nations. It was stated in the "Philadelphia Charter," adopted by the convention, that "poverty anywhere constitutes a danger to prosperity everywhere." The "war against want" requires, it was emphasized, not only the preparation and application of appropriate measures designed to achieve social justice but also "a continuous improvement of productive efficiency."

The ILO, though not to be viewed as an administrative agency, should have the responsibility, it was agreed, of examining and considering all international economic and financial policies in the light of its fundamental aims of promoting full employment and raising standards of living. To that task the ILO, in the view of the convention, brings the peculiar strength of the one official agency through which labor and employers take a direct part in the framing of international policy.

One of the specific resolutions and recommendations of the convention dealt with the rights of workers displaced during the war, especially those in "Hitler's slave market." Other resolutions dealt with international collaboration in aiding occupied countries during the period of transition after the war; the safeguarding and extending of social security programs; the promotion of social and economic development and the improvement of labor standards in colonial areas and dependent territories; and measures for handling the problems of employment during demobilization and industrial reconversion after the war.

RELATIONS BETWEEN LABOR BODIES

One of the problems encountered in participation in the ILO Conference was a choice of representatives of United States workers to form the labor section of the ILO's tripartite representation. The CIO at first insisted upon the inclusion of CIO representatives, but at length yielded to the demands of the AFL for exclusive representation. Similar problems arose in the participation of unions in the work and conferences of international labor organizations and in plans for labor participation in making the peace and organizing the post-war world. The AFL and the CIO agreed as to the desirability of an accord between the two organizations but not as to the terms of agreement, nor especially as to terms of union.

The Sixty-fourth Annual Convention of the AFL, which met in New Orleans on Nov. 20, approved the Executive Council's rejection of an invitation of the British Trades Union Congress to attend a convention of unions of the United Nations in London in January. The Convention, instead of accepting that invitation, decided to invite the International Federation of Trade Unions to convene a conference of "free trade unions" in the United States. The AFL objected to the London conference because the call for the conference did not come from the IFTU, because "dual" unions were invited, and because the call to the conference included certain unions which were viewed as not being "free" unions.

The Seventh Annual Constitutional Convention of the CIO, which met on Nov. 20 in Chicago, approved the action of the president of the CIO in accepting the invitation of the British Trades Union Congress to attend a preliminary convention in London in December and a full convention in January 1945 (the conference to which the AFL decided not to send representatives). The CIO convention also took action in support of "a new single powerful international labor body that shall include all the unions of free countries on a basis of equality, excluding none and relegating none to a secondary place, and be capable of defending the interests of the common man."

Reports to the AFL convention showed a paid membership of 6,807,000 (based on the per capita tax received by the Federation and used by it for allocating voting strength). Reports to the CIO convention indicated a membership of approximately 6,000,000. Unaffiliated unions materially increased the total membership in unions.

The AFL and CIO differed not only as to representation in the ILO but also as to various domestic policies. A major difference was in the field of political action. The CIO took a comparatively active part in the political campaigns of the year and through its Political Action Committee made what was described by the convention as a "historic contribution" to the furtherance of the political interests of workers and to their "organized, energetic, and planned participation in independent political action." The convention authorized the continuance of the PAC and of "mobilization in the political field." The AFL, although continuing its traditional activities in support of individual candidates and of political policies, criticized the PAC as departing from non-partisan procedures. The AFL and the CIO also differed as to the extent of utilization of political action and of governmental agencies in the field of labor policy. The AFL favored a smaller degree of reliance than did the CIO on governmental initiative and activity, as for example, in plans for maintaining employment after the war.

There were, however, many major

points of agreement. Both organizations renewed the no-strike pledge. There was agreement on wage policy in opposition to the Little Steel formula and the wage bracket system, and in support of more vigorous action to remedy substandard wages. Both favored plans for the extension of social security legislation. Both opposed various state laws and the Federal War Labor Disputes Act (the Smith Connally Act) as being hostile to labor organizations. Both continued their collaboration in the work of various agencies, notably the NWLB, the WMC, and the WPB.

EMPLOYMENT CONDITIONS AND STATISTICS

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THIRD WAR YEAR TRENDS

In 1944 economic activity continued on a high level. The Federal Reserve Board index of industrial production in this third war year measured industrial production well over two and a third times that of the 1935-39 period. The sharp upward trend since 1939 had ceased, however, and at the end of 1944, economic activity was at about the same level as a year previous. Such slight changes as there were during the year were downward, owing to settling down and adjustments in the full-fledged war production program, but there was of course no general slackening of industrial activity.

The effect on employment was to maintain it at an unprecedented general level, although it sagged some in comparison with 1943. The turn of military events at the end of 1944 caused the President again to urge a national service act, not because the total labor supply was inadequate for war and essential civilian production, but because the need for prompt, flexible, and controlled allocation of labor to special phases of war production had become the outstanding employment problem.

SOURCES OF WARTIME LABOR

The broad objectives of labor recruiting for the war were achieved by the end of 1943. In the spring of 1940, immediately before the defense production program began, there were 54,000,000 persons in the labor force, of whom almost 8,000,000 were unemployed (2,900,000 of these were in public emergency work). By April 1944, the total labor force had increased by about 16,000,000, or practically 30 per cent. The normal increase in a period of this length would have been 2,500,000, or about 5 per cent. Highlights of the change are shown by the U. S. Bureau of Labor Statistics (*Monthly Labor Review*, August 1944) in Table I.

TABLE I

INCREASE IN EMPLOYMENT AND ARMED FORCES

(April 1940 to April 1944)
(in thousands)

	Total	Male	Female
Total	16,170	10,390	5,780
Civilian employment	5,580	−10	5,590
Armed forces	10,590	10,400	190
Sources of increase:			
Decrease in unemployment	7,030	5,530	1,500
Increase in labor force	9,140	4,860	4,280

The U. S. Bureau of the Census estimates the status of the civilian labor force before the war and late in 1944 as shown in Table II.

TABLE II

CIVILIAN LABOR FORCE

(in thousands)

	October 1944	October 1940
Total	52,870	53,840
Unemployment	630	6,530
Employment	52,240	47,310
Non agricultural	43,490	37,730
Agricultural	8,750	9,580

November 1944 marked the fourth month of decline from the 1944 peak of 55,000,000 in the civilian labor force, but the four-month decline was largely seasonal and was less than the drop in the same period in 1943. Further, unemployment did not change significantly. Non-workers were estimated to be somewhat greater in number than in earlier months, but the total number of non-workers continued the downward trend which began in 1940.

The largest single source of the extra labor supply has been young people who normally would have been in school or college or searching for their first jobs. Almost half (2,800,000) of the additional civilian workers was from this group. Women over 35 years of age, who entered employment rapidly in the second half of 1942, accounted for 1,500,000 of the extra workers. Younger women, between 20 and 35, have engaged in employment at a rate only slightly above peacetime norms, because of the increase in marriage and birth rates, with a consequent responsibility for the care of young children. About 1,500,000 extra workers, finally, came from the ranks of adult men, those who would normally have been retired and those who are on the fringe of employability for various personal reasons.

Comparison with the population in these classes shows where each class stands in the current labor force. The total labor force was 59.5 per cent of population 14 years and over in April 1944, while normally it would have been about 53 per cent. About 97 per cent of men from 20 to 45 were in the labor force, but this figure is only slightly above normal for these ages (except for the 20-24 year group which in peacetime would have been 88.5 per cent), but 40 per cent of boys 14 to 17 were in the labor force, compared to a normal representation of only about 17 per cent. Almost half (48.5 per cent) of men over 65 were employed or available for work, compared to a norm of 39.6 per cent. Almost one out of every five girls 14 to 17 was employed or seeking work, compared to about one out of every 16 under normal expectations.

EMPLOYMENT CHANGES BY INDUSTRY

Slight declines in employment in non-agricultural activity occurred from mid-1943 to mid-1944. The U. S. Department of Labor estimates the changes as shown in Table III.

TABLE III

NON-AGRICULTURAL EMPLOYMENT, 1943 TO 1944

(in thousands)

	August 1944	August 1943
Total employment........	38,740	39,860
Manufacturing.........	16,039	17,182
Mining................	834	882
Construction...........	691	1,169
Transportation and public utilities...........	3,817	3,694
Trade..................	6,908	6,875
Finance, service, misc...	4,582	4,172
Government (excl. construction)...........	5,869	5,886

Declines in the various industry groups reflected completion of certain types of wartime productive activity. In 1944 there was no general labor shortage, but rather a problem created by increasing selectivity in the demand for labor on the one hand, and tendencies for cut-back labor to vanish from the market and for some war workers to seek permanent post-war employment on the other. Curtailment and re-direction of the munitions program caused the index of employment in firearms, for example, to decline from 1328.2 in September 1943 to 871.5 in September 1944 (1939 average = 100). Employment indexes for selected industrial groups are shown in Table IV (U. S. Bureau of Labor Statistics data).

Turnover rates in employment have been high during the war, but in the latter part of 1944 were less than in the preceding year. The Department of Labor reports separation rates per 100 employees of around seven monthly for 1944, compared to figures not far from three each month in 1939. Plenitude of jobs is likely to

TABLE IV

EMPLOYMENT INDEXES FOR SELECTED INDUSTRIAL GROUPS

(1939 average = 100)

	September 1944	September 1943
Durable goods:		
Iron and steel and products	166.1	173.6
Machinery:		
Electrical	274.2	279.8
Agricultural	159.0	145.4
Machine tools	206.5	275.5
Transportation equipment		
Locomotives	546.0	531.0
Shipbuilding	1551.4	1834.4
Lumber and allied products	100.6	111.0
Nonferrous metals and products	161.1	181.8
Non-durable goods:		
Textile products	94.2	103.6
Apparel and finished textiles	95.1	101.1
Food	128.3	129.0
Chemicals and allied products	206.6	256.1

increase rates of voluntary quitting, and the War Manpower Commission "freezing" regulations were introduced to control it. The quit rate rose from 0.7 per 100 in the lowest month of 1939 to 6.2 in the highest month of 1944 (first nine months reported). The layoff rate, on the other hand, was two or more per 100 monthly in 1939 and ranged from 0.5 to 0.9 in the first nine months of 1944. Accessions per 100 employees were at generally lower levels in 1944 than in 1943.

Apart from cut-back layoffs which caused only temporary unemployment or induced retirement of marginal workers from the labor market, the decline in employment in 1944 was attributable to more efficient use of labor and the attempts of the War Manpower Commission to maintain labor "ceilings" to prevent labor hoarding by individual firms. Durable goods employment declined in an especially pronounced fashion, as shown in Table V.

That the decline in war employment in 1944 did not affect war production is indicated in Table VI, compiled by the War Manpower Commission. The index of production clearly reflects other influences than the amount of labor applied to manufacture.

TABLE V

INDEXES OF MANUFACTURING EMPLOYMENT

(1939 average = 100)

	All Manufacturing	Durable Goods Group	Non-durable Goods Group
1940 average	107.5	104.3	110.6
1943 average	168.6	227.7	105.4
1944			
January	166.9	229.8	117.3
February	165.9	228.2	116.9
March	163.6	224.9	115.4
April	160.8	220.9	113.4
May	158.9	218.2	112.2
June	158.5	216.5	112.8
July	157.8	214.0	113.5
August	158.0	213.0	114.6
September	156.4	209.9	114.2

MIGRATION

During 1944, data became available that indicated the broad outlines of population migration, a phenomenon that was known to be prominent in the war period. In fact, not a little of the interesting contrast between management of the labor supply in wartime England and in wartime America lies in the reliance in the United States on purely voluntary movement by the labor force to points of war production activity, largely at its own expense and with recruiting by private industry and common information as the main forces for movement. The U. S. Bureau of the Census used registrations for OPA ration books as its main indicator of population movements. In 39 areas of intense war activity, there was a marked increase in the proportion and number of females and young children from 1940 to 1943. This seems owing to family migration to war centers, with the influx of male workers offset by the drain of men into the armed forces. In general, as a result of both military and civilian migration, the Southern and Western states gained more than 4,000,000 residents

TABLE VI

INDEX OF MUNITIONS EMPLOYMENT AND PRODUCTION

(1943 average = 100)

Month	1943		1944	
	Employment	Production	Employment	Production
January	94	78	101	115
February	96	82	101	113
March	98	90	99	118
April	99	95	98	114
May	99	96	97	116
June	100	97	96	115
July	101	101	95	113
August	102	105	94	115*
September	102	107		
October	103	114		
November	104	117		
December	103	118		

* Preliminary.

between 1940 and 1943, and the north central and north eastern states lost about 2,000,000.

In the fall of 1944, the War Manpower Commission added procedures to control geographical migration to its program of labor control. All migrant workers are now required to obtain "statements of availability" in order to be referred to employment in new locations to which they migrate. Publicity and direct advice to workers as to areas of labor demand are also an important aspect of the new program.

MINING EMPLOYMENT

Levels of employment in bituminous coal mining and metal mining were lower in 1944 than in 1943; in anthracite coal mining the annual average employment was about the same in both years. In March and April 1944, the numbers employed in both bituminous and anthracite declined, but in the following four months employment was stabilized by the issuance of 90-day draft deferments to young bituminous miners in certain areas. Strikes occurred in bituminous and anthracite fields during the summer of 1944, reducing the monthly index of employment in anthracite beyond the usual seasonal decline. In October, the number employed at metal mines declined, reflecting the curtailment of aluminum production. This branch of the mining industry has been peculiarly sensitive to war needs. Table VII shows the levels of mining employment in 1944 as compared to 1943.

TABLE VII

INDEX OF MINING EMPLOYMENT

(1939 average = 100)

	1944*	1943*	Per Cent Change Oct. 1943 to Oct. 1944
Anthracite	74.3	73.3	−4
Bituminous	87.8	96.5	−8
Metal	91.7	109.3	−11

* 10 months.

RAILROAD EMPLOYMENT

The importance of new entrants to railroad employment owing to the war is reflected in the fact that one-third of all receiving wages from railroads in 1942 had entered the industry that year. The greater part of these accessions are for unskilled work, especially maintenance-of-way and gang work. An unusually large number of women and Negroes are being hired, and by agreement with the Mexican Government a maximum of 40,000 Mexicans is allowed to be hired for unskilled work. By mid-1944, employment had reached a new wartime peak, with 1,477,000 engaged. Unemployment in this industry now takes the form almost exclusively of seasonal layoffs. Table VIII shows railroad employment trends, omitting seasonal changes, for the first nine months of recent years.

TABLE VIII

EMPLOYMENT ON CLASS I STEAM RAILROADS

(Seasonally adjusted indexes; 1935–39 average = 100)

Month	1944	1943	1939
January	138.3	134.4	95.2
February	139.3	132.0	95.9
March	140.6	133.2	95.6
April	140.6	134.1	93.9
May	140.2	132.9	92.7
June	139.9	133.5	95.3
July	138.4	133.1	95.7
August	139.1	132.4	96.1
September	136.6	131.5	98.1

EMPLOYMENT IN UTILITIES AND TRADE

Employment in the utilities group remained about the same in 1944 as in 1943. Only electric light and power companies show wartime decreases in employment from the 1939 level. Utilities have been operating at full capacity during the war, and employment changes reflect the effect of loss of men to the armed services and minor seasonal fluctuations rather than lack of participation by this industry group in the war production program. (See Table IX, with indexes unadjusted for seasonal changes.)

Employment in trade, affected by losses to military service and to war industries, has been below 1939 levels since the middle of 1942. Wholesale trade employment has shown relatively slight seasonal fluctuations during the war, but retail trade, during every war year, has sharply increased the number of temporary employees at each year-end. In 1944, levels of retail trade employment were slightly below 1943 figures. Despite the decreased number employed, trade continued at a record peak of activity in 1944, owing to active consumer demand.

TABLE IX

EMPLOYMENT INDEXES IN UTILITIES AND TRADE

(1939 average = 100)

	January	April	July	September
Public utilities:				
Electric light and power	83.8	83.1	83.2	82.4
Street railways and buses	118.8	119.2	118.8	118.7
Telegraph	123.1	122.3	123.9	122.2
Telephone	127.9	128.1	129.7	128.2
Trade:				
Wholesale	95.1	95.1	95.1	95.0
Retail	97.5	97.7	95.5	96.6

CONSTRUCTION EMPLOYMENT

Construction activity and employment follow an individualized and clearly marked course during war periods. There is first an intense demand for construction and then sharp curtailment as this basic industry completes its work. Construction shifts from private to public hands; in the current war period private construction has also been drastically restricted by diversion of materials and thorough regulation of activity. Even maintenance work has been at low levels, largely owing to lack of qualified labor. The high point in wartime construction employment was reached in the middle of 1941, with the U. S. Bureau of Labor Statistics estimating 2,446,000 employed for the year (excluding maintenance workers). In 1942, 2,214,000 were employed, but whereas over half the construction workers had been engaged on private construction in 1941, only one-third were so engaged in 1942. In 1943, the annual figure dropped to 1,300,000, with less than a quarter in private work. The War Manpower Commission forecast 50 per cent further decline in total employment for 1944; the actual decline was somewhat less. Nevertheless, there were fewer employees reported in this field during its peak of seasonal activity in 1944 than in its low months (the winter) of the preceding year. By October 1944, only 637,000 employees were reported, in contrast to 1,002,000 in the same month of the preceding year. Table X shows the trend since 1939. The figures relate only to the continental United States and include seasonal changes.

TABLE X

ESTIMATED EMPLOYMENT ON CONSTRUCTION

(excluding maintenance)

Year and Month	Employment
1939	1,909,000
1941	2,446,000
1943	1,338,000
1944	
January	764,000
February	715,000
March	678,000
April	683,000
May	686,000
June	691,000
July	686,000
August	700,000
September	679,000
October	637,000

EMPLOYMENT IN AGRICULTURE

The U. S. Bureau of the Census Monthly Report on the Labor Force includes estimates of the numbers attached to agriculture (either full or part time) in each reporting period. Although 1944 was a record production year, the general level of agricultural employment was lower than in either of the two preceding years, except at the close of the year, when 1944 monthly figures were slightly higher than in 1943. Data for low, high and harvesting months are shown in Table XI.

TABLE XI

AGRICULTURAL LABOR FORCE OVER 14 YEARS OF AGE

(in thousands)

	1942	1943	1944
January	7,330	7,110	6,600
June	10,230	9,820	9,560
September	8,860	9,050	8,670
November	8,190	7,700	8,140

The supply of farm labor has declined since 1931 except for a temporary upturn in 1938 in reaction to employment declines in industry in that year. In fact, according to the U. S. Department of Agriculture, the long-term trend in the supply of farm labor varies inversely in practically exact response to the availability of factory jobs. Farm labor is, in other words, a marginal pursuit, with farm jobs sought only when other employment associated with a higher standard of living is not available. Consequently the war period has reduced the supply of farm labor not only through the drain by the armed services but also because of the attractiveness of factory jobs. At the end of 1944, farmers were relying more heavily than usual on family labor because of the competition of high wage rates in industry and trade. (This tendency was not, however, uniform, the New England, Middle Atlantic and Mountain regions being exceptions.) Farm employment in 1944 generally was characterized by unusual reliance on farm women, children, local townspeople, war prisoners, and foreign workers from the West Indies, Mexico, and Newfoundland. After several years of difficulty in matching the farm labor supply to the varied and erratic demands of agriculture, advance planning by various government agencies was effective in 1944 in providing a generally satisfactory amount of labor to meet war needs for food and raw materials.

PUBLIC EMPLOYMENT

Civilian employment in the Federal service reached its peak in December 1943, and since then has declined slightly. In December 1942, the total employed in the executive service (including temporary postal employees in the Christmas season) was 2,977,000; in December 1943 it was 3,465,000. By October 1944 the number was around 3,300,000. The War Department is responsible for by far the greatest proportion of these Federal employees, contributing, for example, 43 per cent, 42 per cent, and almost 46 per cent in the three months, respectively. Around 600,000 Federal employees are industrial workers attached to shipyards, ordnance plants, etc. In October 1944, 259,000 employees, of whom three out of every five were women, were working at Washington, D. C. The U. S. Bureau of Labor Statistics reports Federal employment in the different branches of service as shown in Table XII.

TABLE XII

FEDERAL EMPLOYMENT

October 1944

Total	3,315,851
Executive	3,270,519
War Agencies	2,426,755
Continental United States	2,053,019
Outside continental United States	3,373,756
Other agencies	843,744
Continental United States	827,920
Outside continental United States	15,824
Judicial	2,633
Legislative	6,240
Government corporations	36,459

UNEMPLOYMENT

The most generally accepted estimates of unemployment are those of the U. S. Bureau of the Census, as presented in its Monthly Survey of the Labor Force. The decline in unemployment has been steady in each war year, and, with a record of less than 1,000,000 a month in 1944, unemployment has probably reached its minimum for a country with the population and economic complexity of the United States. No reliable data are available as to the unemployment created by cutbacks in war production in 1943 and 1944 but, owing mainly to prompt re-employment of such workers, these cutbacks have as yet had no significant effect on the unemployment trend.

Use of the United States Employment Service as the employment referral agency of the state unemployment compensation program has served to keep the number of unemployment benefit recipients at a very low level. Workers applying for benefits are required to apply also for work at the Employment Service. In addition, workers who are not available for war work have refrained from filing benefit claims during unemployment periods and have thus further reduced the size of the benefit file.

The unemployment compensation program does not cover agricultural workers, government employees, nonprofitmaking institutions, employees in small firms, and domestics; consequently unemployment compensation data are not a close reflector of total unemployment. A staff member of the Department of Commerce presents the figures in Table XIII to show the relationship between the estimated total of unemployment and the number of benefit recipients (*Survey of Current Business*, December 1944). The latter figure is somewhat understated since it is an average weekly figure for the month, but the general relationship is portrayed accurately.

TABLE XIII

COVERAGE OF UNEMPLOYMENT COMPENSATION PROGRAM

(in thousands)

Year	Estimated Total Unemployment June 30	Average Weekly Number of Benefit Recipients
1940	7,720	1,269
1941	5,520	684
1942	2,550	553
1943	1,220	100
1944	1,000	78*

* First six months.

Not only is insured unemployment a small proportion of the total, but it has become a smaller fraction as the war continues, indicating that the basis of unemployment compensation coverage is in war-stimulated industries and trades.

In the first eight months of 1944, slightly over 1,000,000 benefit claims were received throughout the country. This volume was 27 per cent below the same period of 1943, and amounted to only one-fifth of the January-August 1942 volume. Compensable claims, which reflect the number of unemployed who stay in the unemployed file long enough to survive the preliminary waiting period, were almost 37 per cent less than in the preceding year, and 87 per cent less than in 1942. The latter figures particularly reflect the availability of jobs for most workers immediately or after short periods of unemployment.

CHILD LABOR

By Louise D. Stetter
National Child Labor Committee

CHILD LABOR MANIFESTO

In January 1944 it had become increasingly clear that the War had stimulated a revival of child labor on a scale which, if not checked, would be a serious handicap to the children and the country after the war. Taking cognizance of the seriousness of the situation, 35 leaders in industrial, educational, and health problems affecting children and young people joined in issuing a Child Labor Manifesto. The Manifesto states: "The demands of war production and essential civilian services can be met without exploiting children; that children can contribute to the life of their communities in many useful ways, but that it is a short-sighted policy to employ them at hours or under conditions which threaten their physical development and impair their educational opportunities; that the protection of children from harmful child labor is a community enterprise of first importance dependent upon the cooperation of parents, employers, school and other community agencies."

YOUTH LABOR SURVEY

A special survey of the labor force made by the U. S. Bureau of the Census indicates that by April 1944 the number of boys and girls working full or part time, throughout the country, had reached almost 3,000,000; the high schools had 1,000,000 fewer students than they had in 1940, reducing enrollment to the 1934 level. Of the 3,000,000 working children, 1,000,000 were 14 or 15 years old, and 2,000,000 were 16 and 17. In addition, thousands under 14, for whom there is no count, were known to be working. Only about one in four of the 2,000,000 youths of 16 and 17 years were in war industries; the remainder of this group and those under 16 were working chiefly in local industries and service trades. The total number of youths 14 through 17 who were attending school and working in April 1944 is estimated at 1,400,000. About three-fourths of this number worked a combined school-work week of more than 40 hours; two-fifths more than 48 hours, and for one-sixth the combined hours exceeded 56 a week. There were approximately 1,350,000 young persons working and not attending school of whom about 250,000 were 14 and 15 years of age. A work week of more than 40 hours was estimated for three-fifths of this 14- and 15-year group and a work week of more than 48 hours for one-third of this group. Hours of work in excess of 40 a week are considered by national organizations interested in protecting the young people of the nation to be detrimental to the health and general well-being of 14- and 15-year-old children.

FACTORS IN HIGH SCHOOL ENROLLMENT DECLINE

The major factor contributing to the decline in high school enrollments continues to be, not the draft, but the steady demand for young workers. The fact is substantiated by reports from all over the country on the issuance of work permits to young people. The Illinois Department of Labor issued 70,000 permits to youths 14 to 17 years of age during the first six months of 1944 as compared with 35,000 for the same period in 1943. The Nebraska Labor Department reported a total of 4,569 permits issued to school children during the first half of 1944 as contrasted with 474 in 1941. From June 30, 1943 to June 30, 1944, work permits totalling 2,261 were issued to minors between 14 and 19 in Arkansas, an increase of 730 over the total issued for the previous fiscal year. In Rhode Island 2,604 permits were issued to youths of 14 to 16 in 1943 compared with 1,664 issued in 1942, a 56.6 per cent increase. A total of 57,405 work certificates was issued in North Carolina in 1943 to minors under 18, whereas 35,419 such certificates were issued in 1942. In Utah in the period from 1942 to 1944 9,680 work permits were issued to minors of 14 and 15 years while only 3,947 were issued to the same age group in the two year period of 1940-42.

EFFECT ON THE EDUCATIONAL LEVEL

The educational level of young people leaving school for employment continues to have serious implications for the future. In New York State during the four months ended Aug. 31, 1944 there were 77,065 standard employment certificates issued to minors 16 and 17 years of age. Of these the largest number, 50,600 had completed grades nine, ten or eleven when application for certificates were made; the next largest group, 11,531, had completed the eighth grade; grade twelve or higher had been completed by 10,476 of these young people. Figures available for the year 1943 in Pennsylvania indicate that a total of 25,022 general employment certificates were issued to minors of 16 and 17. Grade nine had been completed by the largest number of these young workers, 6,202; a total of 6,180 had finished the tenth grade; the eighth grade had been completed by 4,288. The 1940 U. S. Census found that persons 20 years or older had averaged 8.8 years of schooling. The figures from these two states, which have a 16-year minimum age for employment and not a 14-year age as most states have, do not suggest that the 1950 Census will indicate any material betterment of the average educational level of the population.

ILLEGAL EMPLOYMENT OF CHILDREN

Accompanying this steady increase in the issuance of permits which allow young people to accept legal employment, there has been a serious increase in the number of firms employing children illegally. Offenses for the nation as a whole have risen 800 per cent since Pearl Harbor. The Federal Children's Bureau has found many violations of the Fair Labor Standards Act—3,658 minors were employed illegally for the first six months of the fiscal year 1943-44 as compared with 4,567 for the entire fiscal year 1942-43. Of the 3,658 illegally employed young workers, 262 were under 14 years of age, 2,645 were between 14 and 15, and 751 were 16 and 17. The Children's Bureau reports that in interstate industry Illinois has the highest percentage of illegal employment of any state in the Union.

Since 1938 the Federal Children's Bureau has had responsibility for the administration of the child-labor provisions of the Fair Labor Standards Act which applies to establishments producing goods for shipment in interstate or foreign commerce and sets 16 as the basic minimum age for employment in or about such establishments. Inspections for violations of the child labor provisions are made by the regular wage- and hour-inspectors trained in the child labor phase of their work by consultants of the Children's Bureau. Prosecutions of violators are conducted by the Children's Bureau. The Bureau has worked closely with state agencies in helping to strengthen and extend the systems for the issuance of employment and age certificates which are fundamental to child labor law enforcement.

The facts revealed by enforcement authorities in many states show even more flagrant violations of state child labor laws, which have more loopholes than the Federal laws. For instance, 11,809 violations, an all-time high, were found throughout New York State from May through October 1944. In Arkansas 2,538 child labor law violations were found from June 30, 1943 to June 30, 1944; 2,109 such violations were reported for the corresponding period of 1942 to 1943. In Maryland violations of the child labor law increased 300 per cent from 1939 to 1943. The situation in the states has become almost unmanageable, partly because enforcement personnel has not been increased in most states to deal with the enormous increase in violations, partly because of the great difficulty of locating violations in the many small establishments where children are now employed, and partly because of the failure on the part of parents and other citizens of the country to lend their moral support to efforts to enforce the law. Parents as well as employers continue to a discouraging degree to connive at illegal employment of children while the present manpower shortage creates a demand for their services.

In New York State a special drive against unlawful child labor was instituted in April 1944. The violations were found to average about 2,000 a month, an increase of 100 per cent over those of 1943. The number of minors employed in New York is estimated at 500,000 with one out of four working illegally. By the end of August the Industrial Commissioner reported that 9,000 fewer boys and girls were working illegally in the state. Enforcement efforts in New York have borne fruit because the Commissioner was able to implement his policy of enforcement by increasing the number of inspectors. California is conducting an active campaign to insure compliance with child labor laws. Employers guilty of repeated or flagrant violations have been vigorously prosecuted. An inquiry conducted by the National Child Labor Committee late in 1943 indicated that only 14 states had added even one or two inspectors to their enforcement staffs or assigned other workers in the labor department to child labor inspection, with the result that only a few states have had the facilities for intensive enforcement drives.

RISE IN ACCIDENTS

A corollary of the increase in legal and illegal employment of young people is the sharp rise in the number of accidents in which children are being killed or maimed. In Illinois in 1943 the rate of industrial accidents to minors had risen 100 per cent over the figure for 1942. In Michigan the number of compensable injuries to young people under 18 was 376 for 1942; in 1943 there were 1,065 such injuries, a rise of 183 per cent. Michigan has reported 629 such accidents for the first eight months of 1944. In New York City, 326 awards for compensable injuries to minors who were illegally employed were made for the first half of 1944, an increase of 260 per cent over the 90 reported for the first half of 1943.

CHILD LABOR IN AGRICULTURE

Agriculture has drawn heavily on young people to augment its dwindling manpower during the war. The U. S. Census Bureau in a special survey of the labor force estimated that 800,000 boys and girls 14 through 17 years of age were working on farms during April 1944, and the War Food Administration estimated that by the summer of 1944 there would be 1,200,000 minors under 18 working on farms. Of the 800,000 young persons working in agriculture in April 1944, 350,000 were 14 and 15 years of age and 450,000 were 16 and 17. Of the 14- and 15-year age group, 150,000 were not attending school while 300,000 of the 16 and 17 year agricultural workers were not attending school.

Early in the war the various local and national agencies concerned with protection of young workers, with education, and with agricultural labor needs, formulated principles and standards for the recruitment of young people for agricultural employment. These standards have been publicized by the cooperating Federal agencies and national organizations through their regional, state, and local groups. It is now clear that the public is becoming increasingly aware of the needs of these boys and girls and that there is a growing acceptance of the importance of competent supervision with emphasis on good working conditions, reasonable hours of work, and adequate wages. In some localities the release from school of young people for farm work or the part-time farm work of young students has been carefully controlled with little disadvantage to the children's progress in school. Other localities released children freely, as they have in the past, with no provision for making up the time lost from school for farm work. Efforts to limit recruitment of young people for summer farm work to those over 14, preferably over 15 or 16, have been successful in farm camps and individual placement programs but children under 14 are still used extensively in day haul programs and in migrant family groups.

THE GO-TO-SCHOOL DRIVE

Communities are now realizing that they must attack this whole problem by taking measures to reduce school leaving, establishing more controls over part-time employment through the schools, exposing illegal employment, and demanding that laws be enforced. In the summer of 1944 the Children's Bureau and the Office of Education, with the cooperation of the Office of War Information and the endorsement of the War Manpower Committee, launched a "Go-to-School" drive which was recommended by the Commission on Children in Wartime of the Children's Bureau. The drive received vigorous support throughout the country, the response being considerably greater than the most optimistic proponent of the plan would have anticipated. Many children who might otherwise have left school for jobs have been convinced that they should remain at their studies. Schools have made adjustments in their schedules to aid the students who are physically and scholastically able to participate in the war effort by combining part-time jobs with their school work. Constant emphasis is being placed on the development of additional integrated school and work programs such as have already been successfully worked out by schools and war industries in some localities. Reports beginning to come in indicate that the "Go-to-School" drive produced substantial results in checking school leaving. In Philadelphia the rate of drop-outs for employment in September 1944 as contrasted with that for September 1943 declined 45 per cent; Ohio reports that about half the schools in that state show a gain in enrollment and the other half show a substantial decrease in the number who failed to return.

PART-TIME EMPLOYMENT STANDARDS AND SURVEYS

The War Production Board, the War and Navy Departments, and the Maritime Commission recommended in April 1944 the adoption by all war industries of the "Policies for Part-time Employment of School Youth" issued jointly by the War Manpower Commission, the U. S. Office of Education, and the Children's Bureau. The standards recommended for 16- and 17-year-old students are: not more than four hours of work on a school day; not more than nine hours of school and work combined each day; not more than 48 combined hours a week; and no work after 10 p.m. at night.

These standards have been adopted to a considerable extent by the war industries even though they could not be made mandatory under the Federal Child Labor Law which does not control child labor above 16 except in occupations declared to be hazardous; most of the part-time work done by school children is in local occupations which are subject only to state laws, and there are only nine states which limit the hours of work on a school day even for children under 16. A bill which would have added New York to the states which limit the hours of after-school work was defeated in the 1944 session of the state Legislature. Many states and communities became so concerned about the burden of after-school work carried by young children that numerous surveys were made of the extent and nature of after school employment. The National Child Labor Committee stimulated a number of these surveys by preparing questionnaires and encouraging state or local organizations to get the facts as a basis for action to reduce excessive part-time employment. These surveys are now being used as the basis for action by schools, parents, and local groups which are undertaking campaigns for legislative control or for the education of parents, teachers, and employers generally as to evils of excessive work outside of school hours.

STATE LEGISLATION PLANS

Plans are now being formulated in a number of states to present improved child labor and school attendance legislation to their respective legislatures when they meet in 1945. The Commission on Children in Wartime has proposed that these state drives aim at securing legislation fixing a 16-year age minimum for all gainful employment during school hours to become effective six months after the cessation of hostilities. There are now 13 states which have a 16-year age minimum for employment during school hours. They are: Connecticut, Louisiana, Massachusetts, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Utah, West Virginia and Wisconsin. Work in agriculture and domestic service is exempted in these states except in New Jersey, New York, and Ohio. Agricultural work only is exempt in Wisconsin. Twelve states—Connecticut, Florida, Louisiana, Montana, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Utah and West Virginia—have established a 16-year age minimum for work in factories at any time.

The Child Welfare Information Service, which will serve as a clearing house on Congressional bills and activities of Federal agencies in the field of child and youth service, has recently been established with headquarters in Washington. The work of this organization will be to keep national, state, and local organizations informed on Federal legislation in order that they may take action if they desire to do so.

CURRENT STATE LEGISLATION

That relatively few legislative concessions were made in 1944 and that only three states passed bills which were relaxations of the existing laws are certainly owing in part to the fact that only eight state legislatures met in regular session. A number of attempts to lower materially the standards in certain states were defeated but no advances in child labor laws were made.

Only three states passed child labor legislation, in each case lowering existing standards to some extent. Kentucky now allows children of 14 and 15 to work on Saturdays, 10 hours a day, in retail establishments, employing 10 persons or fewer. In Louisiana boys of 12 and 13 years may now take over newspaper routes for the duration and 90 days thereafter. This is a temporary lowering of the regular age limit of 14. In New York the Legislature approved a bill allowing children of 14 or over to work as golf caddies, without permits, when their attendance at school is not required.

Two important gains were made in Louisiana and Virginia where the school attendance laws were strengthened. The Louisiana Legislature raised the school-leaving age from 15 to 16 years to coincide with the 16-year limit in the state child labor law, increased the length of the school term to 180 days (formerly 140 days), and authorized improvements in the school attendance enforcement machinery. The compulsory attendance age was raised in Virginia also from 15 to 16 but the age for employment under the child labor law remains at 14. Michigan improved the school attendance law by lowering the beginning age from 7 to 6. In South Carolina the high schools may be strengthened by the addition of a twelfth grade pursuant to a request made to the Board of Education by the state legislature.

Forty-four state legislatures will meet in regular session in 1945. Plans are under way in a number of states for the presentation and support of bills which will materially strengthen their child labor and school attendance laws. Campaigns to raise the minimum age to 16 in states having a lower minimum can be based on the strong argument that this action will lessen job competition for returning service men and other adults while increasing the educational equipment of young people before they enter the labor market. Continued vigilance will be necessary, however, for a continuing shortage of manpower will bring renewed demands to relax standards, requiring that effort be put into prevention of retrogressive action instead of into promotion of progressive action.

POST-WAR NEEDS

By the end of 1945 there will be approximately 3,000,000 young people of 14 to 21 or 22 years of age who left school for war work either before they became 18 or before completing high school. These young people will be an after-the-war problem. How great a problem will depend upon general economic conditions but the chances are that they will not be needed in the labor market and should be kept out of competition with adults. They will need educational programs specially planned to supplement their interrupted high school work and encouragement, guidance, and financial help in making good use of these programs to prepare themselves for future employment.

One result of wartime experience with child employment which must be retained in the post-war years is the renewed recognition that problems involving the employment and the education of young people are inseparable, that child labor and school groups must work together closely. These groups have joint responsibility for the ages and conditions under which children leave school for work and for their introduction into employment. As the age for school-leaving and employment is raised they must give careful attention to the educational content and value of the additional years of schooling in order that these years may be profitable to young people with various kinds of interests and activities. The National Child Labor Committee has always been aware of the fact that its efforts to remove children from the wrong kind of work must be supplemented by efforts to secure the right kind of educational opportunities for them and that, while protecting them against harmful employment, it must cooperate in measures to guide them into suitable employment under the most favorable conditions.

The Commission on Children in Wartime of the Federal Children's Bureau and its Advisory Committee on the Protection of Young Workers have suggested four measures as the basis of a program for the employment and education of youth after the war. These measures are: (1) full enforcement of existing Federal and state child labor laws; (2) revision of state laws to set a 16-year minimum age for employment in any occupation during school hours and in manufacturing establishments at any time; (3) educational allowances in lieu of unemployment compensation benefits for young workers returning to school; (4) planning of other measures to help young persons return to or continue in school, including student aid, as necessary.

PUBLICATIONS

Most important of the publications prepared by the National Child Labor Committee in 1944 were: "Changing Picture of Child Labor" (reprinted from *The Annals* of the American Academy of Political and Social Science, November 1944) by Gertrude

Folks Zimand; "Child Labor in a Nation at War" (reprinted from *The Social Service Review*) by Courtenay Dinwiddie; "Child Manpower—After Three Years of War" (annual Report of the National Child Labor Committee) by Gertrude Folks Zimand; "Child Manpower in Wartime" (*American Federationist*, September, 1944) by Gertrude Folks Zimand; *The Long Road* (fortieth Anniversary Report of the National Child Labor Committee) by Florence Taylor; "What is the War Doing to High School Boys and Girls?" (*The High School Journal*) by E. C. Lindeman. Publications of the Children's Bureau during the fiscal year include: *Goals for Children and Youth in the Transition from War to Peace; National Go-To-School Drive* (handbook for communities prepared by the Children's Bureau and Office of Education); *Our Concern—Every Child* (State and Community Planning for Wartime and Post-War Security of Children) by Emma O. Lundberg; Work Leaders for Groups of Nonfarm Youth Employed in Agriculture (for use in the Victory Farm Volunteers Programs); reprints from *The Child*, monthly periodical, Children's Bureau: "Boys and Girls Employed in Agricultural Programs—1943," by Ione L. Clinton (February 1944); "Proposals for dealing with Child-labor and Youth Employment Problems in the Reconversion and Adjustment Period" (September, 1944); "Young Workers in the Wartime Labor Market," by Golda G. Stander, and Edith S. Gray (November, 1944).

PERIODICAL PUBLICATIONS

American Child, The
419 Fourth Ave., New York City.

American Federation of Labor Weekly News Service
901 Massachusetts Ave., N.W., Washington, D. C.

American Federationist, The
901 Massachusetts Ave., N.W., Washington, D. C.

A.L.C. News Letter
American Labor Conference on International Affairs, 9 E. 40th St., New York City.

Child, The
Children's Bureau, Department of Labor, Washington, D. C.

C.I.O. News (National Edition)
1106 Connecticut Ave., N.W., Washington, D. C.

Conference Board Management Record, The
247 Park Ave., New York City.

Economic Outlook (C.I.O.)
1106 Connecticut Ave., N.W., Washington, D. C.

Farm Labor
Bureau of Agricultural Economics, Department of Agriculture, Washington, D. C.

Federal Employee, The (N.F.F.E.)
10 Independence Ave., S.W., Washington, D. C.

I.L.O. News Service
International Labour Office, Montreal, Canada.

International Labour Review
International Labour Office, Montreal, Canada

Labor Information Bulletin
Department of Labor, Washington, D. C.

Labor Relations Reporter
2201 M Street, N.W., Washington, D. C.

Labor Review
126 Sparks St., Ottawa, Can.

Labor's Monthly Survey (A.F.L.)
9th and Massachusetts Ave., N.W., Washington, D. C.

Social Security Bulletin
Social Security Board, Federal Security Agency, Washington, D. C.

Survey Graphic, The
112 E. 19th Street, New York City.

United Mine Workers Journal
900 Fifteenth St., N.W., Washington, D. C.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Federation of Labor, American Federation of Labor Bldg., 901 Massachusetts Ave., N.W., Washington, D. C.

American Labor Conference on International Affairs, 9 E. 46th St., New York City.

Congress of Industrial Organizations, 718 Jackson Pl., N.W., Washington, D. C.

International Labor Office, 3480 University Street, Montreal, Canada.

Labor Research Association, 80 E. Eleventh Street, New York City.

League for Industrial Democracy, 112 E. 19th Street, New York City.

National Child Labor Committee, 419 Fourth Ave., New York City.

National Federation of Federal Employees, 10 Independence Ave., S.W., Washington, D. C.

Railway Labor Executives Association, 10 Independence Ave., S.W., Washington, D. C.

United Mine Workers of America, United Mine Workers Bldg., 15th & I St., N.W., Washington, D. C.

DIVISION XVII

RELIGION AND RELIGIOUS ORGANIZATIONS

PROTESTANT DENOMINATIONAL ACTIVITIES

By Winfred Ernest Garrison
Literary Editor, *The Christian Century*

AREOPAGITICA AND PENN TERCENTENARIES

During the summer of 1944 there were two tercentenary celebrations which looked forward as well as backward, and both of which are closely related to topics that loom large in the interest of the churches, though neither tercentenary attracted a very great amount of either religious or secular attention except in limited areas. The three hundredth anniversary of the publication of John Milton's famous pamphlet, *Areopagitica,* a memorable plea for freedom of the press and a landmark in the history of the struggle for civil liberty, was celebrated in England by a Conference on Spiritual and Economic Values in the Future of Mankind. The same theme, though not the same phrase, was prominent in the observance of the tercentenary of the birth of the Quaker statesman, William Penn.

EMPHASIS ON SPIRITUAL VALUES

It should not be surprising that the churches, Protestant and Catholic alike, have sounded their note, above the din of the year's unusually vehement military and political campaigns, to bring to remembrance the spiritual values without the preservation of which both war and politics miss their ultimate aim. They have done this, and they have not been alone in doing it. Statesmen, military commanders, secular journalists, and news commentators have added their testimony as to the importance of the things of the spirit. What was said on this point in the 1943 review on this theme, and documented by specific citations, is still true—that recognition of the need of spiritual health for the attainment of the ends of government and war is not confined to those professionally responsible for the promotion of the institutions of religion.

Moreover, the churches have, in general, not interpreted their concern for spiritual values in any exclusively other-worldly sense. They have good reason to believe that religion has been a source of comfort and of moral strength to many soldiers at the front. For this and other reasons, the chaplains have been worth more than their weight in anything that might have been sent in their place, but neither the chaplains themselves nor the churches at home have stressed too heavily the "no atheists in foxholes" theme, nor do they expect a spontaneous revival of religion either during or immediately after the war. The chairman of the general commission on army and navy chaplains, Rev. William B. Pugh, returning from a tour of the war fronts, warned against any such expectation. On the other hand, the writer (in *Harper's*) who answered the question, "What do soldiers think of the church?" by saying, "They don't!" was evidently basing his conclusion upon only part of the evidence. However that may be, observation of the behavior of the churches warrants the statement that they are concerned chiefly with what religion and its institutions can do for soldiers and civilians now and for post-war society, and relatively little about what the course of events in and after the war may do for the churches.

DECLINE OF PACIFISM

Pacifism on religious grounds has been a phenomenon of diminishing magnitude, though one would not like to say of diminishing importance because of the quality and caliber of some of the pacifists. Church conventions and assemblies, when moved to pass resolutions concerning the war, as they can scarcely refrain from doing, are usually careful to avoid calling it a "holy war" or to claim God as a partisan of the Allies, but even those which take pains to declare that the church, as such, is not at war have been willing to make clear their conviction that the cause of God and man would gain by a victory for our side. The Methodists, whose general conference four years ago declared that it would never "bless" any war, passed in 1944 very strong resolutions affirming the moral and spiritual values of a victory in this war. Other denominations have approved similar statements, not recanting their earlier condemnations of war as a horrible and un-Christian method of settling international differences, but recognizing that it is better to check the unleashed forces of aggression by war than to give them free course through the world. Moral issues are at stake, even if all on our side are not angels and if mixed motives are involved. A war is not necessarily—and this one is not actually—a mere conflict of rival imperialisms. Such views are undoubtedly held by the great majority of laymen and leaders in the churches. They were more strongly and more generally held in 1944 than in 1943, yet the churches for the most part respect and defend the individual rights of their members who have conscientious scruples against participating in war.

The historic peace churches (Quakers, Mennonites, and United Brethren) have consistently maintained their testimony. While some of their members have entered the armed services, these three bodies have furnished most of the conscientious objectors and have carried most of the cost and the administrative responsibility for the Civilian Public Service camps in which about 6,000 conscientious objectors are detained. There are also 2,400 in Federal prisons, where they constitute about one-eighth of the Federal penal population. Most of the conscientious objectors in prison are there because they preferred it to the C.P.S. camps, and 1,450 of them are Jehovah's Witnesses.

Immediate action by Congress to provide for universal compulsory military service was condemned by the Federal Council of Churches of Christ, the Roman Catholic hierarchy, and the Rabbinical Association.

PLANNING FOR PEACE

The churches have led the way in studying the conditions of post-war settlement which will bring a just and lasting peace. They began it while most of the politicians and secular journalists were still saying that we must win the war and think about peace arrangements afterward. Now it is commonly agreed that a statement of war aims has value in maintaining our own will to victory and in letting the enemy know that "unconditional surrender" does not mean annihilation. The "Delaware Declaration" (1942) and the "Six Pillars of Peace" (1943) are still basic in these studies.

A National Student Planning Conference on the World Mission of the Church was held at Wooster, O., at the beginning of 1944. The Methodist Bishops' Crusade for a New World Order held sessions in 100 cities during January to create sentiment against American "isolation" and for "continuing collaboration with other nations in maintaining peace and developing a Christian society." The Disciples of Christ held their "Drake Conference" at Des Moines, Ia. in February. A World Order Crusade was organized by the Northern Baptists in March, with a "World Order

Sunday" on May 7, to mobilize influence upon the Senate for a world organization which will include all nations and face "all problems relating to human well-being," not merely provide a police force against a future aggressor nation.

More than 1,000 American church leaders issued, in April, a plea for the immediate formation of a United Nations Council to supplement the too narrowly personal and too secretly conducted conferences of the heads of the Big Three. The Congregational General Council, meeting at Grand Rapids, Mich., in May, adopted a "World Order Compact" patterned after the Mayflower Compact of 1620. British Anglicans and Free Churchmen united, in June, in an eight-point declaration of post-war principles. In addition, there has been a flood of books discussing the application of Christian principles to the formulation of peace terms and the creation of a social order so good for all that nobody will want to disturb it by another war. It was in the light of this acknowledged responsibility of the churches for some contribution to the world's moral health and social welfare that Prof. H. F. Rall tersely stated to a large interdenominational conference of ministers one essential condition of the church's future usefulness: "Scrap sectarianism!"

WARTIME SERVICES

Practically all the things that churches do in time of war are "wartime services" in a rather definite way. This is true even of those central and timeless things which are the ground of the church's existence—the preaching of the gospel and the administration of the sacraments, but the churches also do specific things to meet specific needs. They select and train the chaplains who, by thousands, are rendering an indispensable ministry to the armed forces. They have collected and disbursed millions for the relief of war victims abroad. Some denominations, notably Lutherans and Roman Catholics, conduct hospitality centers, similar to the USO, for service men and women. City church federations have carried on extensive work for social and religious welfare in new industrial areas, for prevention of juvenile delinquency, for the Japanese evacuated from the West Coast, and for the care of inmates of public institutions.

The Y.M.C.A., which celebrated the centennial of its founding in 1944, is less conspicuous in this war than it was in the last one; it is not now, as it was then, burdened with impossible tasks overseas which never ought to have been laid upon it; but it is rendering many valuable services. Most American churches have not felt that pushing the sale of war bonds was among their legitimate functions. Those which have done most in this direction—the Roman Catholic and certain branches of the Eastern Orthodox—are the ones which have close connection with governments in the countries where they are the majority groups.

EFFECTS ON CHURCHES

As a result of increased national income, and also of income tax exemption on gifts, church debts are being paid off, budgets are generally balanced, and reserves are being accumulated for future building. At present, churches find it difficult to get priorities on materials even for enlargements that are badly needed or for buildings in new communities that are completely unchurched. The problem of ministerial personnel continues to be more difficult than that of finance. The chaplaincy has taken thousands of the younger ministers and large numbers of graduates fresh from the seminaries. The effect of the administration of Selective Service in cutting off at its source the supply of candidates for the Protestant ministry has been partly remedied. After an appeal by the heads of 23 denominations, who showed that the Protestant bodies were the victims of "unequal treatment" in this respect, it was ruled that deferment is to be granted to an undergraduate who has decided upon the ministry if he has been provisionally accepted by his denomination and by a theological seminary for future admission. Such a student, upon reaching the age of induction, can continue his college work under supervision of the seminary by which he has been provisionally accepted and will be considered a theological student within the meaning of the law.

Foreign missions are seriously hampered in many fields, but continue in all except those which are within the zone of actual military operations. Travel restrictions have imposed many difficulties. The term, "world service," now coming into more common use, correctly represents an enlarged conception of the missionary task.

MOVEMENTS TOWARD UNITY

The projected National Council of Churches of the United States, planned as a merger of the Federal Council of Churches, the International Council of Religious Education, and other interdenominational agencies, is still in process of formation. The Federal Council (in January) and the International Council (in February) referred the proposal to their constituent denominations with recommendation that it be adopted. The Congregationalists (in May) were the first to approve. In September a Canadian Council of Churches was organized with Anglicans, Baptists, Disciples, Evangelicals, Presbyterians, Salvation Army, and the United Church of Canada as members.

The World Council of Churches gained the adherence of four more churches in 1944, and now has 86 member churches in 29 countries. A small preliminary meeting will be held, probably in Stockholm, as soon as possible after the end of hostilities in Europe, to prepare for the first full meeting of the Assembly which, according to present proposals, will be held in America. Representation in the Assembly, totaling 450, is apportioned by the constitution of the Council. Meanwhile, an international office is maintained at Geneva, with branches in Stockholm and the United States. These perform many emergency services at a cost of about $750,000 a year, provided by voluntary contributions. The death of Dr. William Temple, Archbishop of Canterbury, in October 1944, was a serious loss to the whole ecumenical movement. He had been chairman of the Faith and Order organization since 1930 and was a leader in projecting the World Council.

No denominational unions have been consummated during the year, though several have been under consideration and some have made visible progress. The Presbyterian Church in the U.S.A. (Northern) and the Presbyterian Church in the U. S. (Southern) voted in their General Assemblies to continue the committees on union. The Presbyterian Church U.S.A. also continues its negotiations with the Protestant Episcopal Church; its General Assembly called upon the Episcopal General Convention of 1946 to commit itself to some definite proposal. At the same time it warned the Federal Council to maintain its "evangelical position"—an obvious and ominous allusion to the then pending application of the Universalist Church for membership—and, after giving this hint, voted almost unanimously to remain in the Federal Council. The Federal Council later rejected the Universalist application. Committees of the Congregational Christian Churches and the Evangelical and Reformed Church have approved preliminary terms of union between these two, and have proposed a two-year period of closer cooperation and acquaintance preparatory to formal union.

RELIGIOUS LIBERTY

Freedom of religion was one of the Four Freedoms. There is a growing understanding that this is inseparable from civil liberty. Interpreting the Four Freedoms, the Federal Council of Churches defined religious liberty as "freedom to worship according to conscience and to bring up children in the faith of their parents; freedom for the individual to change his religion; freedom to preach, educate, publish, and carry on missionary activities; and freedom to organize with others, and to acquire and hold property, for these purposes." A joint committee of the Federal Council and the Foreign Missions Conference demanded that these rights in other countries be guaranteed by treaties. Meanwhile the effort to prevent the exercise of these rights in Latin American countries by barring Protestant missionaries still continues. This campaign against civil and religious rights has, strangely enough, gained powerful support in our own Department of State, which has held up passports of new and returning Protestant missionaries to South American countries on the mistaken assumption that it is thereby promoting the good neighbor policy. Father Orlemanski's visit to Stalin in Moscow, unauthorized by his superiors, to ask whether Roman Catholics would enjoy religious liberty in Russia, elicited an affirmative reply that went beyond the question. Stalin said Catholics would enjoy religious liberty in Russia because everybody does. It is notorious that this is not an accurate description of past conditions, but there is evidence that a new policy of tolerance toward religion has been introduced in Soviet Russia. The future will reveal whether this will lead to a general policy approximating what we call civil and religious liberty, and whether other nations, some of which have strongly condemned Russia's intolerant irreligion, will move toward an equal intolerance directed against any but their dominant church.

SEVENTH-DAY ADVENTISTS

This (1944) is a centennial year for the "second advent movement." William Miller announced the second coming of Christ in 1844. Further study of prophecy, and the fact that the event did not visibly occur in that year, led to the conviction that the date referred to an event in Heaven and to the beginning of a period of "investigative judgment." So the apparent failure of Miller's prediction marked the beginning, rather than the end, of the movement. The observance of the seventh day of the week, instead of the first, was adopted almost immediately. Missionary and promotional work has been carried on with great vigor and with the most liberal financial support. The world membership is 549,290, of whom 205,691 are in the United States and Canada (as of Sept. 30, 1944). Funds raised in 1943 amounted to $35,679,249. Of this amount, $20,322,228 came from the United States and Canada. More than half of this amount came from the tithe, from which appropriations are made for missions, rehabilitation of war losses, and the maintenance of home institutions. Offerings specifically made for missions equal almost half of the amount given as tithes. Contributions for the maintenance of local churches are scarcely more than one-sixth of the whole. Up to Oct. 31, 1944, all classes of contributions in North America have run about 15 per cent ahead of those for the corresponding period in 1943. Sales of Seventh-Day Adventist literature (books, tracts, and periodicals) amounted to $7,682,000 in 1943; if the increase indicated by world figures up to August 1944 is maintained, the total for the year will be about $9,000,000.

The half-hour weekly radio "Voice of Prophecy" was being broadcast over 286 stations in the United States and Canada and 77 in Latin America at the beginning of 1944. By December, these numbers had been increased to 360 and 91, the latter now including some stations in Africa. Ministerial students take a preparatory theological course in one of the nine senior colleges of the denomination, then have two years of supervised field work ("ministerial internship"), and finally eight quarters at the theological seminary, Washington, D. C. A very important feature of the Adventists' work is the training of "medical cadets" under a program of instruction and clinical practice formulated in consultation with the office of the Surgeon General of the U. S. Army. It is reported that more than 12,000 medical cadets so trained are now serving the armed forces on every front. Adventists are recognized as non-combatants, but their slogan is that they are "conscientious co-operators" rather than "conscientious objectors."

ASSEMBLIES OF GOD

This group, which describes itself as "fundamentalist, Pentecostal, evangelical, missionary," has 5,200 affiliated churches, 226,705 members (over 16 years), and more Sunday school pupils than church members. It added congregations at the rate of one a day during the year. Headquarters are at Springfield, Mo., where a four-acre tract has been bought as the site for a new administration building and publishing plant. The most widely circulated periodical is the *Pentecostal Evangel* (112,000 weekly). Missionaries are supported in 50 foreign fields, at an annual cost which now exceeds $1,000,000. During 1944, 56 candidates were appointed for foreign service. A youth program, "Speed the Light," is just getting under way. Its purpose is to supply missionaries with such needed equipment as automobiles, motor boats, and airplanes. A Servicemen's Department was organized in January 1944, and conducted at a cost of $110,844 for the first ten months. It sponsors 30 Christian service centers in the United States, England, and India. Correspondence is carried on with 30,000 service men, and the quarterly *Reveille,* published especially for them, has a very large distribution.

NORTHERN BAPTISTS

Salient events and interests are listed as follows by a qualified representative: 1. Enlargement and implementation of the work of the Post-war Planning Commission. Stronger grasp of world conditions and opportunity for the church. Plans for social education, philanthropy, parish extension, evangelism. 2. Firmer integration of local churches in the Northern Baptist Convention by clear definition of the meaning of "cooperating church" as basis for membership in the Convention. 3. Extension and clarification of accord with Disciples of Christ, and adoption of several projects for mutual cooperation. 4. Formation of an organization of those who favor a more conservative policy in foreign missions. This effort is greatly regretted by a majority of the Convention, and attempts are being made to compose the differences. 5. Advance program of social studies under the guidance of the Council on Christian Social Progress. 6. More funds were raised for missionary and educational work than for many years past. A drive was launched for a Post-War Special Emergency Fund of $10,000,000. 7. For the second time in its history, the Northern Baptist Convention chose a woman as its president, Mrs. Leslie E. Swain, of Massachusetts, formerly president of the American Association of College Women and president of the American Baptist Foreign Mission Society.

The Northern Baptist Convention now has 7,348 churches with 1,555,914 members, and 7,087 Sunday schools with 950,794 pupils. Admissions to churches on baptism numbered 47,718. Contributions for maintenance of local churches were $18,216,953; for missions and benevolences, $4,964,373. The total value of church property is $194,734,397.

SOUTHERN BAPTISTS

The Southern Baptist Convention was the largest Protestant denomination in America until the union of three Methodist bodies produced a larger. Its separate organization began in 1845, when the slavery issue produced a division among Baptists. It considers itself, however, not as "a denomination," but as a part of the Baptist denomination organized to direct missionary, educational, and general denominational work in the white Baptist churches of the southern and southwestern states. At the annual session of the Southern Baptist Convention, Atlanta, May 16-18, 1944, the boards and agencies reported marked gains in receipts for the year. The promotional director, Dr. J. E. Dillard, led an Every Member Canvass during the week beginning Nov. 26 with the aim of securing weekly subscriptions to a fund of $80,000,000 for the support of the work of the churches for the year. Pat M. Neff was president of the Convention for 1944; Rev. Louis D. Newton and Rev. W. H. Williams, vice-presidents; Rev. Hight C. Moore and J. Henry Burnett, recording secretaries; Rev. Austin Crouch, executive secretary; Rev. E. P. Alldredge, secretary of survey, statistics, and information. Headquarters are at 127 Ninth Ave., Nashville, Tenn.

Latest complete statistics are as of the end of 1943. The 25,790 congregations, served by 23,311 ordained ministers, had 5,493,027 members; 24,503 Sunday schools enrolled 3,332,978 pupils. There were 777,732 persons enrolled in Baptist Training Unions, and 715,433 in Missionary Unions. For local church work, $49,611,443 was contributed; for missions and benevolences, $13,455,640. The value of church property is $248,168,495, in addition to which there are 65 schools and colleges with properties and endowments amounting to $75,910,562, and 20 hospitals and 18 children's homes with property worth $24,340,729.

FREE WILL BAPTISTS

Minutes of the meeting of the National Association of Free Will Baptists, held at Flat River, Mo., July 9-14, 1944, report a membership of 96,817 in 14 states—strongest in North Carolina, Oklahoma, Alabama, Georgia, and Missouri, in that order. A mission is conducted in Cuba; one in India is apparently dormant. Receipts for foreign missions for the year were $14,958, nearly double the previous year. Home missionary work is for the most part handled and financed by state and district boards. The weekly paper, the *Free Will Baptist,* has a circulation of 3,100. There is a Free Will Baptist Bible College at Nashville, Tenn.

NATIONAL BAPTIST CONVENTION

This largest Negro denomination in America has approximately 4,350,000 members, according to the secretary of the Convention, Dr. J. M. Nabrit, with every state represented. The next meeting of the Convention will be in Detroit, September 1945, with Dr. D. V. Jemison as president. A Sunday school and Baptist Training Unions congress, at Birmingham in June 1944, surpassed all former records in attendance and money raised. This meeting was primarily educational, to train workers. The annual Senior meeting was held at Dallas, Tex. in September. Its theme was: "A smitten world, a repentant church, and a saving Christ." More than 20,000 were present, and $85,000 was reported raised for Convention purposes. The young people will meet at St. Louis in June 1945.

The National Baptist Convention has commissions on social service, race relations, temperance and the chaplaincy, all of which work in cooperation with the Northern and Southern Baptist Conventions, the World Baptist Alliance, the Federal Council of Churches, and the Negro Fraternal Council of Churches. The denomination operates two publishing houses, a seminary and training school at Nashville, and a hospital and schools in Liberia under its foreign missions board.

CHURCH OF THE BRETHREN

With a membership of 180,287, in 1,019 congregations (as of Sept. 30, 1944), the church reported expenditures of $205,590 by its general mission board (an increase of $10,055), of which $59,357 was for home missions. The Brethren Service Committee, which came into existence to meet war conditions, supervises the Civilian Public Service camps and has charge of the relief work. Gifts for this purpose total $386,582. A pension plan for ministers, started some years ago, is just now beginning to receive full support. Missions in China, India, and Africa continue under wartime limitations. The greatest difficulties have been met in China. Through the cooperation of the Board of Christian Education and the Brethren Publishing House (at Elgin, Ill.), increased interest has been shown in publishing books by Brethren authors. Nine such books have been published in the past year. The *Gospel Messenger* has a weekly circulation of 40,669, an almost four-fold increase in the last ten years. The church supports Bethany Biblical Seminary, in Chicago, with 108 students in the seminary and 116 in the Bible training school, a total increase of 42. The 158th recorded Annual Conference of the Church of the Brethren was held at Huntingdon, Pa., June 7-11, 1944. It reaffirmed the "historic peace conviction" of the church.

CONGREGATIONAL CHRISTIAN CHURCHES

Total membership was 1,093,325 at the beginning of 1944, a net increase of 15,539 for the year, the largest net gain for some years. There were 69,323 additions in 1943. Sunday school enrollment, 504,231, shows a decrease of 79,645. The graded curriculum, with graduation exercises, takes pupils out at the top faster than they come in at the bottom, while the church provides other educational activities for adults who formerly remained in Sunday school classes. For support of local churches, $16,185,468 (up $889,060) was contributed; for church repairs and enlargements, $3,104,884; for missions and benevolences, $2,914,311 (up $356,826). Churches have property worth $166,868,553, with debts of $6,202,205, and investments of $27,940,589. Ministers in active service as pastors number 3,090; chaplains and other religious workers, 543; retired 1,242. The total number of ministers, including educators, missionaries, denominational officials, and others, is 5,908. The General Council, which met at Grand Rapids, Mich. in June 1944, approved the formation of a Department of the Ministry; declared its willingness to hold a joint three-day session with the General Synod of the Evangelical and Reformed Church to discuss the proposed union, and approved closer cooperation between the two bodies during a preliminary period of better acquaintance; adopted resolutions concerning post-war reconstruction including international organization; recommended that conscientious objectors be given opportunities for service outside of C.P.S. camps, receive maintenance and pay from the Government for services rendered, and be given post-war assistance similar to that provided for other men under Selective Service.

DISCIPLES OF CHRIST

World membership totals 1,845,829 (June 30, 1944). In the United States and Canada there are 1,681,933 members (Canada 9,145), 7,998 churches, 7,772 ministers. The gain in world membership was 3,706; in the United States and Canada, 2,921. Expenditures for local churches in the United States and Canada were $16,017,761 (up $907,964); for missions and benevolences, $3,469,972 (gain of $1,446,358 over 1942, after a sudden up-surge to $5,505,779 in 1943). Foreign missions continued in all fields except Japan and the Philippines, with necessary shift of forces in China. The missionary magazine, *World Call,* increased its circulation (as of November 1944) to 57,506, an accelerating gain of 62 per cent in the last three years. Chaplains now in service number 419. The latest International Convention (U. S. and Canada) met at Columbus, O., Oct. 17-22, 1944. M. E. Sadler, president of Texas Christian University, Fort Worth, was elected president of the convention for the ensuing term.

PROTESTANT EPISCOPAL CHURCH

The Episcopal Church has been alert to the needs and opportunities presented by the war. Nearly 500 of its clergy are serving as chaplains, and in the three years of war the churches have given more than $1,000,000 to provide them with the supplies needed to make their ministry effective. On D-day the presiding bishop delivered an appropriate message by short wave over the world. The church has been active in ministering to workers in war plants and to Japanese-Americans. Much attention has been given to the care of missions of the Anglican Church. Since 1941 a committee on Anglo-American missionary cooperation has been studying this subject. In 1944 there was a conference between the American section, with Presiding Bishop H. St. George Tucker as chairman, and the British, with the Archbishop of York as chairman. Early in 1944 the Archbishop of York, Prof. Leonard Hodgson, and Dr. M. A. C. Warren, secretary of the Church Missionary Society, visited America, and in October Bishops Oldham and Hobson went to England to confer with British leaders. The death of Archbishop Temple was an inestimable loss to the world-wide Anglican communion and to the World Council of Churches, of which he was president.

As an initial contribution, the Protestant Episcopal Church gave $200,000 in 1944 for the relief of distressed churches in Europe through the agency of the World Council. Through the Presiding Bishop's Fund for World Relief, Episcopalians gave more than $100,000 for the help of afflicted peoples. To meet post-war needs of the church and of society, the Presiding Bishop has appointed two representative committees, one on the Post-war Ministry, one on Returning Service Personnel. The ten-year plan laid special emphasis on "the Christian fellowship: international and interracial understanding." A monthly periodical, *Churchways,* merging the National Council's former departmental papers, began publication in January 1944. The department of promotion under its new director, Robert D. Jordan, made greater use of motion pictures and radio. It produced its first professional sound film, "We, too, Receive," and placed with more than 300 radio stations a transcription for use on V-day. Cooperation with Columbia's Church of the Air and other nationwide religious radio programs was continued. These had been developed under Rev. G. Warfield Hobbs, who retired in August after more than 20 years as editor of *The Spirit of Missions,* executive secretary of the department of publicity, and director of radio activities.

The next session of the triennial General Convention will be held in San Francisco, October 1946. The headquarters of the National Council, which conducts the affairs of the church between sessions of the Convention, are at 281 Fourth Ave., New York. The official magazine is *Forth,* William E. Leidt, editor. Rt. Rev. Henry St. George Tucker is president of the National Council.

The total number of communicants is 1,540,784, in 7,894 parishes and missions. Sunday schools have 387,981 pupils enrolled. The clergy number 6,412, and 189 priests were ordained during the year. There were 83,848 baptisms and 63,759 confirmations. The ratio of communicants to population stood at 1 to 90.2, as compared with 1 to 97.3 a decade earlier.

EVANGELICAL CHURCH

In North America the church has 256,000 members, 261,298 Sunday school pupils enrolled, and 1,616 ordained ministers. There were 11,665 baptisms and 16,415 new members received during 1944. The unification of the youth work was accomplished by forming the Evangelical Youth Fellowship, which will provide for more than 70,000 youth between the ages of 12 and 24. The annual missionary objective of the Fellowship is more than $85,000. Under direction of the Board of Christian Social Action, a National Service day in December yielded about $15,000 for work with young men and women in national service. The Kingdom Advance is a four-year program in evangelism, Christian education, and missions. The grand total for all purposes was $6,793,430, an average of $26.95 per church member. The colleges and seminaries are launching large campaigns for endowment, buildings, and current funds. The board of missions has inaugurated a $500,000 Kingdom Service fund for relief, rehabilitation, and reconstruction in overseas missions. Churches and annual conferences reduced their debts by $930,088 during the year.

FRIENDS

General activities are under the Five Years meeting of the Friends in America, with an executive committee the headquarters of which is at Richmond, Ind. The Board of missions, with responsibility for evangelism, education, industrial training, and medical work, functions in Mexico, Cuba, Jamaica, Palestine, Africa, among American Indians, and in the Tennessee mountains. The most rapidly growing board is that of Christian Education, which produces Sunday school literature. The Board of Peace is seeking a young man to become its full-time secretary, instead of depending upon the American Friends Service Committee for that service as heretofore. The Board on Prohibition and Public Morals "has taken on new life but requires more adequate support."

Several conferences of the Social Order Committee, with interest centering on rural life, have led to the formation of a Rural Life Association with a full-time secretary. Conferences are being held in colleges, and curricula are being revised to include rural training. A farm-based school for training farmers is being opened, primarily for returning service men and C.P.S. men. The Five-Year Meeting formed a Committee on evangelism and church extension, in 1944, to cooperate with similar committees of the several Yearly Meetings. A new committee on the training of ministers has been formed, which will hold informal courses for ministers at Quaker Hill, near Richmond, Ind. The Publication Board maintains a bookstore and fosters *The American Friend,* a national journal edited by Errol T. Elliott, who is also secretary of the executive committee of the Five-Year Meeting. Charles F. Thomas has become full-time secretary for young people's activities. A conference was held in November to devise means of educating against peacetime conscription and for a soundly based world order.

LUTHERAN CHURCHES

The structure of Lutheranism in America is somewhat complicated. There are 18 bodies (counting as one a group of "independent congregation") with a total of 3,713,102 confirmed, and 5,277,128 baptized, members in the United States and Canada. They have 13,593 ordained ministers, 16,119 organized congregations, property worth $404,055,713, and gave $57,989,544 for local church expenses and $18,174,023 for "church work at large" in the year. (Statistics compiled August 1944.) The separation among these 18 bodies is largely, but not wholly, on the ground of national origin and language. Those having more than 100,000 confirmed members are, in order of size, United Lutheran Church, Missouri Synod, Norwegian Lutheran Church of America, American Lutheran Church, Augustana Synod, and Joint Synod of Wisconsin.

The American Lutheran Conference includes the American Lutheran Church, Augustana Synod, Norwegian Lutheran Church, Lutheran Free Church, United Danish Evangelical-Lutheran Church. These, plus the United Lutheran Church (the largest of all) the Danish Ev. Luth. Church, and Suomi Synod, are members of the National Lutheran Council. The other large group is the Synodical Conference, the members of which are Missouri Synod (second largest Lutheran body), Joint Synod of Wisconsin etc., Slovak Synod, Norwegian Synod, and Negro Missions. The remaining five Lutheran bodies which are not included in either of these more general organizations are all very small groups having a total of 25,030 confirmed members. This fact, together with the recent reorganization of the National Lutheran Council under a new constitution and the enlargement of its membership, as well as the increased cooperation between the major groups, shows American Lutheranism moving toward unity. The new president of the Council is Rev. Dr. Rees Edgar Tulloss (elected Jan. 24, 1945), president of Wittenberg College, Springfield, O.

The secretary of the American Lutheran Conference reports that its five constituent bodies have participated in the program of Lutheran World Action sponsored by the National Lutheran Council which carries on work among the church's service men, supervises work in defense areas, and raised about $1,500,000 to finance these and other projects. The constituent bodies are all engaged in campaigns for funds to strengthen their colleges and seminaries. About $5,200,000 will be spent on higher education in the immediate post-war years. Pacific Lutheran College, at Tacoma, Wash., is jointly supported by the five churches of this group. Their baptized membership is 1,663,606; they raised $17,493,076 for local expenses and $7,489,857 for benevolences; and they have $115,420,218 worth of local church property.

The Synodical Conference, with 1,769,215 baptized members (1,195,864 confirmed), finds about 80 per cent of its numbers and strength in the Synod of Missouri and other states. It has 4,992 pastors in the United States and Canada and 150 in foreign fields, 309,672 pupils in Sunday schools and 100,000 in its 1,694 parochial schools. It has eight theological seminaries (one each in Argentina, Brazil, India, and China), two teachers' colleges, one university, and 17 junior colleges. There are 40 full-time and 35 part-time workers at the Chicago headquarters of the Missouri Synod's Army and Navy Commission, and about 210 chaplains in service. More than 800 pastors give special service to Lutheran servicemen where no Lutheran chaplain is available. Many chaplains and pastors devote full time to German prisoners of war. A $5,000,000 post-war expansion program is contemplated by the Missouri Synod in addition to its regular budget.

MENNONITES

There are about 60,000 members in 500 congregations served by 134 bishops, 574 ministers, and 322 deacons, in the United States, Canada, South America, Africa, and India. The church is divided into 18 district conferences, each with its own executive organization. Most of these are affiliated with the biennial Mennonite General Conference, which has a Board of Education, a Publication Board, a Board of Missions and Charities, and a Commission for Christian Education and Young People's Work. The church's two colleges are at Goshen, Ind., and Hesston, Kan. The Mennonite Publishing House is at Scottdale, Pa. A Mennonite Central Committee, in which all branches of the church are represented, carries on relief work in Europe, the Middle East, Paraguay, and Puerto Rico. Sixteen Mennonite Relief workers have been sent to work in refugee camps in Egypt, where they are temporarily under contract with the UNRRA. Relief expenditures for the year ended Sept. 20, 1944 totaled $175,728. Thirty-five tons of clothing were sent for distribution in Europe.

METHODISTS

The year 1944 saw the fifth anniversary of The Methodist Church, formed in May 1939 by the merger of The Methodist Episcopal Church, The Methodist Episcopal Church, South, and The Methodist Protestant Churches. The quadrennial General Conference was held April 26-May 6 in Kansas City, Mo., and within the next two months the constitutionally required quadrennial sessions of the six Jurisdictional Conferences were convened.

The General Conference perfected the legislation governing the operation of the seven major administrative boards and other minor agencies of the reunited denomination. The Conference revised by a close vote, after a vigorous debate, the statements in the Discipline of 1940 that the Church should remain out of the present conflict and refrain officially from endorsing, supporting, or participating in war. Women, though permitted lay-ordination and the right to be employed by district superintendents as "supply pastors," were once more denied full ministerial rights of Annual Conference membership.

A "Crusade for a New World Order" was launched at the beginning of the year for the purpose of arousing public opinion to the support of post-war international collaboration. Led by the Bishops, a series of nearly 100 mass meetings were held across the nation. Network and transcribed radio programs were promoted and the Crusade objectives were given prominence in the curriculum material and periodicals of the church.

Following up this movement the General Conference launched a four-year "Crusade for Christ" with four additional emphases: Evangelism, Christian Stewardship, Improvement of Falling Church (Sunday) School Attendance, and the raising of $25,000,000 for post-war relief and reconstruction.

No longer a function of the General Conference, 13 new bishops were elected during June and July by the several Jurisdictional Conference. They are, with their assignments to Episcopal residents: Fred P. Corson, Philadelphia; W. Earl Ledden, Syracuse; Lewis O. Hartman, Boston; Newell S. Booth, Elisabethville, Belgian Congo; Costen J. Harrell, Birmingham, Ala.; Paul N. Garber, Geneva, Switzerland; Charles W. Brashares, Des Moines, Ia.; Schuyler E. Garth, Madison, Wis. (a newly created residence); W. Angie Smith, Oklahoma City, Okla.; Paul E. Martin, Little Rock; Robert N. Brooks, New Orleans; Willis J. King, Monrovia, Liberia, West Africa; Edward W. K. Kelly, St. Louis.

Bishops who retired are: John C. Broomfield, St. Louis; U. V. W. Darlington, Louisville, Ky.; Hoyt M. Dobbs, Jackson, Miss.; Robert E. Jones, Columbus, O.; Francis J. McConnell, New York; Ernest G. Richardson, Philadelphia; John M. Springer, Elisabethville, Belgian Congo.

Church finances follow the curve of better business conditions. Receipts for World Service benevolences were $5,898,571; Women's Division of Christian Service, $4,584,078; General Administration Fund, $199,483; pastoral support, $31,626,726 plus $6,286,989 for bishops and district superintendents; $23,271,849 for other expenses of the 41,059 local congregations. About $25,000,000 was paid on indebtedness, including interest. The Methodist Publishing House, founded in 1789, had its best year. Total sales reported were $7,234,747. Circulation of Church School periodicals reached 4,719,155 and the denomination's official weekly, *The Christian Advocate* (Chicago), 280,000. Membership is 7,955,085, including 1,209,304 classed as non-resident. Membership outside the United States is estimated at 500,000.

CHURCH OF THE NAZARENE

This denomination officially began with the union of three bodies in 1908. Its spirit is evangelistic and missionary, and it lays special emphasis on the doctrine of entire sanctification. It has a representative government combining features of episcopacy and congregationalism. District assemblies meet annually. The eleventh quadrennial General Assembly met at Minneapolis in June 1944. Total membership in the United States, Canada, and the British Isles is 191,552. It has doubled since 1932. Members in foreign mission fields bring the world total 203,196. Sunday school enrollment is reported as 332,727; young people's societies, 65,856; members of women's missionary societies, 60,328. Gifts in 1944, to October, were $10,077,353, or $55.59 per capita. Value of church buildings and institutions is $22,644,820. In 1944, $1,000,000 was given for missions; 33 missionaries were sent to Africa, India, South America, Mexico, and Alaska. The national youth organization raised $15,000 for special religious work in Alaska. Seven denominational colleges are maintained. The 1944 General Assembly voted to establish a central seminary at Kansas City. The official paper is the *Herald of Holiness* with a weekly circulation reported as about 90,000. A missionary monthly, *The Other Sheep,* and a *Young People's Journal* are published. The denominational headquarters and publishing house are at 2923 Troost Ave., Kansas City, Mo.

PRESBYTERIAN CHURCH U. S. A.

The Presbyterian Church in the United States of America at the end of its statistical year, March 31, 1944, had 2,098,091 communicant members (net gain 46,222), 9,472 ordained ministers (of whom 675 are chaplains), 8,665 local churches, and 1,250,873 Sunday school pupils. The members gave $25.98 per capita (up $2.29) for all purposes, or a total of $53,062,026. Of this amount, $6,079,536 was for regular missions and benevolences, an additional $1,300,000 for war emergency causes, and $44,196,189 for local church and denominational expenses. Members received on profession of faith were 93,570; by transfer from other churches, 56,169; infant baptisms, 54,431. All these figures record large gains over 1943. The General Council has authorized the raising of a special fund of $20,000,000 during 1945-50 for special post-war needs.

The General Assembly, at Chicago, May 1944, urged that collective security be sought by international organization; uttered grave warning against anti-Semitism and any discrimination on grounds of race, creed, or color; authorized a committee which, in November, initiated a church-wide campaign of education on world order, with 50 or more one-day conferences and a month of study in local churches planned for the winter. In the autumn a Laymen's Committee on the Betterment of the Church, consisting of 24 men and women, began to formulate methods of making effective a four-point program approved by the General Assembly—churchwide spiritual and financial education, Sunday school improvement and enlargement, organic union with three other communions of the Presbyterian family, and an annual million dollar increase in benevolence giving. The purpose is to attain these four objectives in four years. The moderator of the General Assembly for 1944-45 is Rev. Roy Ewing Vale, of Indianapolis. The executive head is Rev. William B. Pugh, stated clerk of the General Assembly.

PRESBYTERIAN CHURCH, U. S.

The Presbyterian Church in the United States (South) has 17 synods (in most cases corresponding to state lines of southern states), 88 presbyteries, 3,500 organized congregations, 2,562 ministers, and 565,853 members. During the year, 18,436 were received on profession of faith and 22,819 by certificate. There were 10,674 adult baptisms and 8,762 infant baptisms. The church received $16,013,915 for all purposes, or $28.30 per member. Of the total, $4,622,487 was for missions and benevolences. The per capita giving was $8.17 for benevolences and $20.13 for local church expenses. In September there were 150 chaplains in the Army and 114 in the Navy, numbers in excess of the church's quota. The General Assembly, meeting at Montreat, N. C., in May 1944, authorized the distribution of copies of a proposed plan of reunion with the Presbyterian Church U. S. A., with the understanding, as reported by the stated clerk, that at present the plan is for study only and that the question of union is not to be considered definitely until the war is over. Much emphasis has been given to evangelism. Rev. H. H. Thompson, of Jackson, Miss., is the new field director of this work. Laymen took the lead in raising a fund of $400,000 for rehabilitating foreign missions after the war. Rev. Chas. L. King, of Houston, Tex. was elected moderator of the General Assembly in May 1944. The 85th General Assembly will convene at Montreat, N. C., May 24, 1945. The stated clerk is Rev. E. C. Scott, Liberty Bank Building, Dallas.

REFORMED CHURCH IN AMERICA

The General Synod of the Reformed Church in America met in Buck Hill Falls, Pa., June 1, 1944 and elected Rev. M. Stephen James as president. A general growth and advance were reported. The membership had increased by 3,217 over the previous year. (Latest former figure for membership was 163,835.) Giving for congregational expenses had increased by $420,644; for benevolences, by $193,950. The synod authorized the raising of a $175,000 war emergency fund.

CHRISTIAN REFORMED CHURCH

About 90 per cent are of Dutch stock, for the most part descendants of men who belonged to the Christian Reformed Church in the Netherlands, some from those who withdrew from the Dutch Reformed Church in 1822. The main element began its separate existence in the United States in 1857 in Michigan. There are now congregations in every state, except three in the South. Membership numbers 75,000 communicants in 310 churches with about 300 preachers. Calvin College and Calvin Seminary are located at Grand Rapids, Mich. Catechism classes are maintained in every congregation, with the pastor as teacher. Recently there has been great growth in Christian primary schools. The Netherlands War Relief aims at collecting $100,000 to help believers in the Netherlands. The pre-millennial question, which agitated the church a few years ago, has ceased to be a matter of sharp controversy. The subject of mixed marriages disturbs many minds. The denomination protested to Washington authorities against profanity in the armed forces. Efforts to reach Holland settlers in South America continue. A considerable work is done among Navajo and Zuñi Indians, begun in 1896. Preaching missions have been undertaken in several places, a new venture since formerly mission work was done only among persons of Dutch descent and of Calvinistic stock.

SALVATION ARMY

The global scope of the Salvation Army enabled it to meet the many demands made upon all agencies of good will in 1944 with an intensified international program. The Army operated some 3,000 centers for service men in many countries, and 115 Red Shield clubs, 68 mobile canteens, and 36 other units in the United States. As a member of United Service Organizations, the Salvation Army conducted 114 USO clubs, 26 mobile canteens, and 28 USO extensions. There was a notable increase in services for service women. Youth operations reached new importance, with 60 per cent of the effort directed to spiritual and character building work.

As more countries have been liberated, the Salvation Army has been permitted to resume work in them, and rehabilitation plans became more definite. The Salvation Army in the United States takes an active part in the American Council of Volunteer Agencies for Foreign Service, and integrates its work with other national units of the Salvation Army. Commissioner Charles Baugh, International Chief of Staff, arrived from England in November to integrate activities of the Army in the United States with the international organization for an effective post-war program. Among Salvationists themselves, a re-consecration crusade was carried on in each of the four American territories. Commissioner Donald McMillan became National Secretary in January 1944, to coordinate the activities of the 2,500 centers in the four United States territories.

CHRISTIAN SCIENCE

The work of the Camp Welfare Activities of the Mother Church, the First Church of Christ, Scientist, in Boston, which was begun in 1941, was continued and enlarged. This work consisted mainly of supervising the activities of the more than 575 Christian Science wartime ministers and volunteer workers who ministered to the spiritual needs of men and women in the armed forces in the United States and many countries overseas. These workers, with the approval and cooperation of Army and Navy staff officers, conducted Christian Science services, responded to calls for Christian Science help or healing, and made authorized literature available free to those desiring it. Rooms were provided for quiet study, writing or relaxation.

There are 25 chaplains in the Army and one in the Navy, of whom 17 served overseas. Garments for civilian use, totaling more than 687,470 pieces, were sent to England, Russia, the French in Tunisia, and refugees on the Island of St. Pierre. Garments were supplied also, on request, to the Czech Legation. More than 195,000 knitted garments were sent to the armed forces. Since a primary object of Christian Science is to restore health and peace of mind through spiritual means, this need was abundantly supplied, while at the same time no call for relief from material needs of those in the service of their country was overlooked.

Authorized literature is available at all Christian Science reading rooms. A Christian Science "Church of the Air" was recognized by a certificate of merit from the National Federation of Press Women. The *Christian Science Monitor,* internationally known and esteemed on its journalistic merits, continued to maintain a staff of able correspondents all over the world. During most of the year it conducted a news program over the Mutual Broadcasting System. This program, called "The World's Front Page," gave direct reports from many countries with an analysis by one of the *Monitor's* news experts.

UNITARIANS

Three new churches were established. The extension department's budget for the first time included an appropriation for radio work, and the Unitarian message has been broadcast from three powerful stations. Forty-nine churches were aided by direct grants of $44,100. Building loans of $30,203 were made to eight churches. The new regional organization was completed and five regional directors have been appointed. Thirty-three Unitarian ministers are on active duty as chaplains, and 15 others in other forms of full-time war work. A student seminar for new men in the ministry was held at Boston in September. The 1944 Lenten manual, *The Disciplines of Freedom,* had a sale of over 60,000 copies. The Beacon Press published 18 other titles. The monthly organ is the *Christian Register.* The Unitarian Service Committee's European headquarters at Lisbon has given aid to many refugees, and the committee has rendered a variety of other services at home and abroad to service men and women, and to civilians through the Willow Run recreation project, three work camps for teen-age young people, and projects for child care and Japanese American relocation.

INTERDENOMINATIONAL ACTIVITIES

By Preston King Sheldon
Editor and Writer

RELIGIOUS AIMS IN RELATION TO GOVERNMENT

Encouraged by the wide and serious attention given to the seven principles of the joint Pattern for Peace, signed in October, 1943 by eminent Roman Catholic prelates, the heads of 21 Protestant communions, several rabbis and the heads of three Eastern Orthodox bodies, interfaith leaders in 1944 were preparing for concrete participation by religious groups in helping solve problems in international relations. (See The American Year Book, 1943, pp. 632-4.)

The year's record for 1944 of their work on behalf of an improved world order was covered by the initial publication in September of *Focus,* a bulletin for laymen put out under the auspices of the World Alliance for International Friendship through the Churches, designed to stimulate study and action on peace proposals. The bulletin was announced to appear monthly except in July and August. Its aim was stated to be to serve "the man in the pew," who was believed to have been overlooked by most publications covering peace problems, including even the religious aspects.

"We believe that an effective international organization for peace with justice must be established and that our country, under God, should play its full part in this task," the first bulletin announced. "Secondly," it stated, "we believe that the American churches have a special responsibility for the achievement of a better world order. And, thirdly, we believe that the churches, each loyal to its own faith, can fulfill this responsibility best by cooperative action. These have been the principles of the Protestant, Catholic and Jewish leaders in the Church Peace Union for the past quarter of a century. These will be the principles of *Focus*."

Publication of the joint Pattern for Peace at the close of 1943 by virtue of support received all through 1944 was hailed by *Focus* as "a significant event," although a brief document, which "summarized social ideals as expressed in nearly one hundred previous religious pronouncements." It was the first time that leaders of such diverse religious groups had expressed themselves with unanimity on the basic issues of world peace. Their statement was taken as "a climax of one period of church work, the effort of leaders to secure wide agreement on basic moral principles of world order." It was published widely by newspapers, read three times on the floor of the United States Senate during a debate on foreign policy, used as the subject of repeated mass meetings in this country and received commendation from Catholic, Jewish, and Protestant leaders in Great Britain. It was also presented at the Republican and Democratic national conventions. In furtherance of application of the seven principles in varying emphasis, women of 27 Protestant denominations on Armistice Day, 1943, in world government programs, discussed throughout the United States "The Price of an Enduring Peace." Teams of Protestant leaders began the same month a tour of 100 cities to stimulate public support of participation in international affairs. Several denominations followed these activities up with crusades, endorsements, and campaigns of letter-writing to members of Congress, and out of these came commitments by lay leaders to work for an international government organization as a religious obligation. Another indication of interest was action by the United Church of Canada, which held its first official convention in September, 1944 in Toronto, as a national council, and announced a substantial agreement with "the joint Pattern for Peace and four other statements of religious leaders and bodies." "No nation can live to itself alone," the new church council of Canada stated. "Canada has multiple responsibilities as a member of the British Commonwealth of Nations, as one of the major countries in the Western Hemisphere, and as a potential member of any other association of nations that may be formed."

DUMBARTON OAKS PROPOSALS

The position of religious leadership in the United States in helping win the peace was discussed along with the Dumbarton Oaks proposals at the twenty-ninth annual meeting of the American Council of the World Alliance for International Friendship Through the Churches, at the Hotel Biltmore, New York, in November. The meeting was held in cooperation with the Commission to Study the Organization of Peace, headed by James T. Shotwell; the National Peace Conference; the League of Nations Association; and the Carnegie Endowment for International Peace. The speakers included Professor Shotwell, Major George Fielding Eliot, Benjamin Gerig of the State Department, Clark M. Eichelberger, Dr. Emily Hickman, and President William M. Lewis of Lafayette College.

A resolution adopted on the Dumbarton Oaks proposals stated: "We recognize that these proposals are not perfect and fall short of what we ultimately desire, but they do mark the longest step forward taken in our generation toward an adequate world organization by establishing security and making provision for economic betterment and social welfare." The proposals were looked upon as marking the "end of the beginning" in the struggle for international organization. Less red tape was seen in the proposals than was the case under the League of Nations. Progress was also indicated in the direction of meeting the objectives of at least one of the points of the joint Pattern for Peace, (*i.e.*, the fifth) though fully adequate machinery to that end was not expected so early in the proceedings. (THE AMERICAN YEAR BOOK, 1943, p. 633.)

Careful reading and study of the Dumbarton Oaks proposals was urged in *Focus*, November, 1944, of the World Alliance, which also listed a pamphlet containing the text and an analysis by Clark M. Eichelberger, published by the Commission to Study the Organization of Peace, which together with a copy of the *World Alliance Newsletter* for November, 1944 and a copy of the Pattern for Peace, were available at the Alliance's office, 70 Fifth Avenue, New York City, a nominal sum being charged only for the commission's pamphlet. The full text of the Dumbarton Oaks proposals was also announced in *Focus*, as available in small quantities without charge at the Woodrow Wilson Foundation, 8 West 40th Street, New York 18. The *World Alliance Newsletter* for December, 1943 and February, 1944, ran excerpts of Parts I and II respectively of the Fourth Report to be made by the Commission to Study the Organization of Peace and urged readers to write the Commission at 8 West 40th Street, New York 18 for copies of the full report.

FEDERAL COUNCIL'S REACTION

The reaction of the Federal Council of the Churches of Christ in America to the Dumbarton Oaks proposals was expressed at its biennial meeting in Pittsburgh in November, 1944, in a formal statement adopted there which pointed up certain defects it was felt could be ironed out later, though meanwhile the proposals were welcomed as "a definite plan for the continuing collaboration of the United Nations and in due course other nations." The statement was: "The organization proposed has many of the characteristics of a military alliance of a few great powers. Certain provisions seem to envisage a division of the world into regional spheres of influence dominated by one or another of the great powers. Reliance is placed primarily on force unrelated to any explicitly agreed principles of justice. Further, the proposed organization should be more adequately endowed with curative functions needed to deal with the causes of war and with creative functions needed to draw the nations together in fellowship. . . . We believe that the proposed organization, with such beneficial modifications as ought to result from further consideration by the prospective members, can be developed into one that will commend itself to the Christian conscience. As such, we believe, it should receive the support of our people, with full recognition of its present limitations and with determination to overcome them." The statement called for reiteration of the "basic affirmation of our Statement of Guiding Principles" in an effort to "translate into action the beliefs which we profess." The Council here referred to principles endorsed in March, 1942, at the opening of the first conference under the auspices of the Council's Commission to Study the Bases of a Just and Durable Peace, headed by John Foster Dulles, which principles he summarized later. (See THE AMERICAN YEAR BOOK, 1942, p. 632.) The conference was held in Delaware, O. The 1944 statement followed an address in Pittsburgh by Mr. Dulles, in which he supported the Dumbarton Oaks proposals, with certain reservations as to their workability in all points. He cautioned against appraisal of them merely in terms of the use of force to the neglect of constructive phases such as the proposed economic and social council and the world court.

PLANS FOR SECOND PEACE CONFERENCE

Meanwhile plans had been announced in advance of the Council's biennial session for a second conference of the commission headed by Mr. Dulles, to be held in Cleveland, Jan. 16-19, 1945. Two special commissions were named to present findings at that time. The first, headed by Dr. William Ernest Hocking of Harvard University, was to cover the international situation, and the second, headed by Dr. Walter Marshall Horton of Oberlin College, to cover the basic problem of the peace strategy of the churches, from a theological viewpoint.

REPORT ON RELIGIOUS LIBERTY

While the Federal Council was in biennial session in Pittsburgh it received the report of a joint committee on religious liberty composed of its own representatives and others from the Foreign Missions Conference of North America in which it was revealed that the executive bodies of the Council and the conference had approved a statement it had recommended, to be addressed to governments, which was transmitted to President Roosevelt and placed in the hands of the Secretary of State and the heads of 53 diplomatic missions in the United States. Memoranda were submitted: (1) on use of the statement by the Federal Government; (2) the relation of religious liberty to civil rights; (3) next steps in international consultation. Some 35 church bodies in foreign countries were informed, and in some cases parallel action was undertaken, using the identical statement to submit to government officials abroad. The Federal Council for Free Churches in England approved it, voting to send it to the office of the British Foreign Secretary. The statement was also broadcast by short wave to Germany and numerous other countries.

The joint committee also urged "that our State Department be urged to seek the establishment of an agency on Human Rights and Fundamental Freedoms along with the social and economic council set forth in the Dumbarton Oaks proposals," among other objectives. A detailed report of its own findings running in book form to 500 pages was announced for publication in February, 1945, the author being M. Searle Bates, professor of history at Nanking University. The joint committee's report was given by Dr. O. Frederick Nolde, dean of the Graduate School of the Lutheran Theological Seminary, Philadelphia. The statement adopted by the two executive bodies to set forth the part governments might play in protecting religious liberty follows:

"We recognize the dignity of the human person as the image of God. We therefore urge that the civic rights which derive from that dignity be set forth in the agreements into which our country may enter looking toward the promotion of world order, and be vindicated in treaty arrangements and in the functions and responsibilities assigned to international organizations. States should assure their citizens freedom from compulsion and discrimination in matters of religion. This and other rights which inhere in man's dignity must be adequately guarded; for when they are impaired, all liberty is jeopardized.

"More specifically, we urge that: The right of individuals everywhere to religious liberty shall be recognized and, subject only to the maintenance of public order and security, shall be guaranteed against legal provisions and administrative acts which would impose political, economic, or social disabilities on grounds of religion. Religious liberty shall be interpreted to include freedom to worship according to conscience and to bring up children in the faith of their parents; freedom for the individual to change his religion; freedom to preach, educate, publish, and carry on missionary activities; and freedom to organize with others, and to acquire and hold property, for these purposes.

"To safeguard public order and to promote the well-being of the community, both the state, in providing for religious liberty, and the people, in exercising the rights thus recognized, must fulfill reciprocal obligations: the state must guard all groups, both minority and majority, against legal disabilities on account of religious belief; the people must exercise their rights with a sense of responsibility and with charitable consideration for the rights of others."

RELATIONS OF CHURCH AND STATE

The relationship of religion to the state and the obligations of the latter to religion were further set forth in a resolution of the Federal Council adopted in Pittsburgh, calling for a continued policy in the United States guaranteeing complete separation. The resolution had a definite bearing on the presence at the Vatican in Rome of Myron C. Taylor as personal representative of President Roosevelt, whose appointment in 1939 to that post with the rank of ambassador roused immediate opposition among Protestants in the United States which continued the following year.

While conceding that a precedent had been set by William Howard Taft in 1902 through a temporary contact with the Vatican, the Council in its opposition to carrying such a precedent over into a permanent status stated: "All who treasure our historic achievement in religious liberty and a spirit of mutual respect and friendliness among the diverse religious groups must be zealous to maintain the principle of the separation of Church and State and to defend it against any measure that might prove to be an entering wedge for breaking it down," and continued:

"It is for this reason that we are firmly opposed to the establishment of diplomatic relations between the United States and the Vatican. To establish diplomatic relations with the Vatican would confer upon one Church a special preferential status in relation to the American Government. Such an arrangement would be contrary to the spirit of our American tradition.

"A continuing official connection between our Government and the Vatican would also have the unfortunate effect of encouraging the un-American policy of a union of Church and State. The Roman Catholic Church has always advocated such a union; it regards itself, in fact, as both a Church and a State. Our nation, since the day of its birth, has rejected the union of Church and State; other nations which do not share our tradition may feel that there are reasons of practical expediency for maintaining diplomatic relations with the Vatican. We do not regard such considerations as weighty enough to justify our country in compromising its historic position. A temporary contact for a clearly defined purpose of negotiation concerning a specific political or economic matter may be arranged if occasion arises, as, for example, when William Howard Taft in 1902 dealt with the issue of the Friars' Lands in the Philippines. This, however, does not require the maintenance of regular diplomatic relations.

"If it is argued that it is the Vatican as a State, not as a religious institution, with which diplomatic relations are established it must be pointed out that in practice it is impossible to separate the two. The Roman Catholic Church, according to its own conception, is a religious body and a political body at the same time. It has claimed temporal sovereignty even when it has had no territory over which to rule. Representation at the Vatican therefore involves a very different pattern of diplomatic relations from those which prevail among other states.

"For the United States to have diplomatic relations with the Vatican would be to have diplomatic relations with the Roman Catholic Church. This procedure would set aside the American principle of according all religious bodies the same status in the eyes of our government. Such a departure from our historic past might even lead to an ultimate acquiescence in the doctrine enunciated by the encyclical of Pope Leo XIII on 'The Christian Constitution of States' which bluntly declared that 'It is not lawful for the State to hold in equal favor different kinds of religion.' What this encyclical condemns is what the United States has practiced.

"In taking this public stand we desire to make it clear that we are not speaking against Roman Catholicism as a form of Christian faith and worship. We recognize it as one of the great branches of historic Christianity. We earnestly seek every opportunity to cooperate with Roman Catholics, as Christian brethren, in common efforts for the welfare of mankind. But we find it necessary to make a sharp distinction between the Roman Catholic religion and the political power exercised by the Roman Catholic hierarchy for its own institutional ends.

"We would also make it clear that we are not passing judgment upon the action of the President of the United States in sending a 'personal representative' to the Vatican, provided this be now treated as a temporary measure of a wartime emergency character and not as a precedent for the future. We are appealing both to our Government and to public opinion for a faithful adherence to our American principle of the separation of Church and State. We are emphasizing the incompatibility of this principle with diplomatic representation at the Vatican. We are insisting that we should not now reverse an established policy of which the American people as a whole have been justly proud."

PROTESTANT APPROACH TO GOVERNMENT

A united approach to problems affecting the interests of Protestant denominations before the Federal Government was urged by Dr. Samuel McCrea Cavert, general secretary of the Federal Council of Churches, who called for greater unity among all Christians in his report to the biennial convention. Discussing relations between Protestants and Roman Catholics, Dr. Cavert said the Roman Catholic Church, because of its historic position as a branch of the Christian Church was "an ally against the secularism which presumptuously undertakes to build a civilization without any acknowledgement of the Divine Order or of the significance of Jesus Christ for the life of mankind." He said, however, 'resolute opposition must be expected from Protestants to "the clericalism which has become all too familiar in the history of countries in which the Roman Catholic Church has controlled the affairs of State." He said on behalf of Protestants a plan was being promoted by the Federal Council to establish a Washington Bureau to keep churches informed of administrative and legislative developments. He also announced a national study conference under auspices of the Council's Commission on the Church and Minority Peoples, to be held in May, 1945. The commission published following the biennial convention a statement of its Negro members to white churchgoers, calling on all Christian churches to maintain an open door policy to all races. It was signed by more than 100 Negro ministers and laymen. The statement was drawn up by Dr. Benjamin E. Mays, chairman; Dr. Channing H. Tobias, Dr. Charles H. Wesley and Miss Olivia P. Stokes. Dr. Mays, president of Morehouse College, Atlanta, and a Baptist, became in 1944 the first Negro vice-president of the Federal Council. Its president for the ensuing biennium was Dr. G. Bromley Oxnam, former Bishop of the Boston Methodist Area who shortly before had succeeded Bishop Francis J. McConnell in a similar post in the New York Area, the latter retiring.

Cognizance of immediate legislative problems was registered by the Federal Council while still in session in Pittsburgh by adopting a resolution calling for deferment by Congress, until after the war of action on proposed legislation authorizing post-war military conscription. The Council declared that "for the United States to change now its historic policy might be so interpreted as to prejudice the post-war settlement and jeopardize the possibility of achieving the kind of world order reflected in our government's war aims." A resolution on the Federal income tax system expressed concern over "the recent change in tax policy and procedure which permits a presumptive average deduction regardless of whether contributions have actually been made or not." The Council stated: "We believe that this provision tends to diminish the individual citizen's sense of responsibility to support the churches and other voluntary agencies and thus threatens a basic American tradition."

Indications of rising interest among churchgoers in legislative matters was also evidenced in March, 1944, when the United Council of Church Women urged its members throughout the country to study and act on legislation proposed in Congress to grant an appropriation of funds to enforce child labor provisions of the Wages and Hours Act as recommended in President Roosevelt's budget and other legislation to grant an appropriation for the continuance of the Fair Employment Practices Committee. The United Council held its second biennial assembly in November, in Columbus, O., centering its discussions on "Our Responsibility in the World-Wide Christian Fellowship." A number of detailed reports on its phases were given by commissions appointed at the first assembly two years preceding, which were prepared by state or city councils of church women. The national body also heard an address by Dr. Charles S. Johnson, professor of social science, Fisk University, Nashville, Tenn., in which he commended the work of the Federal Fair Employment Practices Committee and stressed need of a Federal health program, urging support of the Wagner-Murray-Dingell Bill as a step in that direction. He also urged consideration of using church funds available for investment, for model housing, rather than for railroad stocks.

CHURCH RELIEF WORK ABROAD

One of the projects most pertinent to the progress of interdenominational efforts to bring about a world organization of Christian religions which was reported to the Federal Council, at its biennial session was a trip abroad by Dr. A. L. Warnshuis, foreign counselor of the Church Committee on Overseas Relief and Reconstruction, who arrived in London, Nov. 5, and was abroad while the Federal Council was in session. He took greetings from Protestants in America and carried a personal letter from President Roosevelt endorsing his mission. He met Dr. Visser 'tHooft, general secretary of the proposed World Council of Churches, and others of its leaders in England, France and Switzerland. Returning home, he urged meeting the need in Europe for food, clothing, shelter and medical supplies. He found churches becoming more aggressive in economic problems.

A Commission for World Council services had been established by the American Committee for the World Council of Churches at the suggestion of the relief group, having for its concern the following services rendered through the office in Geneva of the proposed World Council of Churches: chaplaincy service to war prisoners; Bible distribution; coordination of refugee relief and reconstruction; and inter-church aid. Dr. Theodore A. Greene became chairman of the new commission. Dr. Douglas Horton in 1944 had been named chairman of the American committee, and he immediately announced the new commission under it. He stressed that the churches in America did not want to impose their ideas on Europeans and that the visit abroad of Dr. Warnshuis was intended to be a means of finding out what help was most needed and desired.

Anticipating challenges to the churches in the task of post-war reconstruction, a department of the proposed World Council of Churches to take care of these problems was set up in 1944 with Dr. Alphons Koechlin as chairman and Dr. 'tHooft as executive secretary. This department set about to take over the work of the European Central Office for Inter-Church Aid by successive stages. The former office, or bureau, was set up in Copenhagen in 1922 and became known as the "relief arm" of the Universal Christian Council for Life and Work, which was merged into the Provisional Committee of the World Council of Churches in 1938. The new world council department was launched as the "Department for Reconstruction and Inter-Church Aid." Reports on progress of the Commission for World Council Services and of the trip abroad by Dr. Warnshuis were made at the annual meeting of the American Committee for the World Council of Churches in New York City in December, by Dr. Horton and Dr. Henry Smith Leiper, executive secretary, respectively. The committee had as guest speaker Dr. John R. Temple, director of the British and Foreign Bible Society, who announced he had been conferring with officers of the American Bible Society on his visit here, on plans for closer cooperation.

HELP FOR BIBLE SOCIETIES

The American Bible Society was sponsor from Thanksgiving to Christmas of a daily Bible reading program on the home front and among our armed forces which received the support of Chinese Christians and the cooperation of the National Christian Council in China among their own people. A drive for funds was also started by the American Bible Society for its needs. Particularly acute situations had arisen abroad, the Society noted, because of destruction of property of European Bible societies by bombing. This, together with the normal needs of the armed forces, was estimated to require four years' production to meet.

The World's Sunday School Association, through its North American Administrative Committee, also announced a drive for funds to meet post-war needs in religious education.

The National Conference of Christians and Jews announced it would need $1,000,000 for its work in 1945, having raised its budget from $398,000 in 1943 to $754,000 in 1944. It maintained 40 regional offices, serving 3,000 town and city committees and 278 community conferences. It distributed 2,770,000 pieces of literature to the general public and 4,500,000 to the armed forces in the year ended Oct. 1, 1944. There were 5,520 radio programs on better group and intercultural relations. Through its commission on educational organizations in cooperation with the American Council on Education, a study of textbooks in American schools and colleges was undertaken with a view to checking the rise of a biased trend on racial and religious issues. It worked also with other National educational agencies.

HOME MISSIONS PROGRAMS

The Home Missions Council of North America in 1944 conducted 44 institutes and schools to train Protestant clergymen for post-war work in rural areas. Fifteen of the training centers were instituted under auspices of its committee on sharecropper work and 29 were schools managed jointly by its committee on town and country and the Federal Council of the Churches of Christ in America. The latter entered its thirty-second year of in-service training. Courses at the centers included week-day religious education, rural youth problems, rural economics, and sociology and adult education.

A ten-point wartime program for American Protestant churches and missions, which summarized the views of speakers at its annual meeting in New York City in January, 1944, was advocated by the Home Missions Council as follows:

1. Churches must aggressively fight the spread of isolationist sentiment in America and seek America's full participation in the maintaining of world peace.

2. Churches must prepare to meet more fully the social effects of demobilization and population migration. The church must be "on the move" for the 25,000,000 people on the move during the war in America and perhaps permanently.

3. Churches must become teaching as well as preaching centers for the training of leaders in the handling of specific community problems and needs. Since the war has led to the concentration of Church authority among older people, a revival of youth movements and youth training must be prepared now.

4. Church groups and social agencies must coordinate and unify forces to meet the moral deterioration of American life, the growing juvenile delinquency that is expected to increase

after the war, and the breakdown of family life. Consolidation of churches where possible is advised.

5. Churches must call on industry and labor organizations to make every effort to fill the gaps in America's production lines by women without children, leaving mothers to make homes for the boys and girls who will run the world tomorrow.

6. Churches must inaugurate a huge system of counselling and guidance for the return of soldiers to civilian life.

7. Churches must offer more opportunities for the development of "friendship in a day when highly mobile and urbanized people have lost the friendship pattern of life."

8. Churches must meet the increase of race and minority hatred by programs of more rapid integration of language and race groups into the regular churches.

9. Churches must study and act on the spectacular growth of small emotional sects or "store front religions" which are increasing in urban areas more rapidly than the old established denominations.

10. A program for the increased use of wide scale publicity and promotion.

WORLD MISSIONS

Post-war planning for rehabilitation of world missions was set down as the primary task of the International Missionary Council, in a report to the Foreign Missions Conference of North America, at its fiftieth annual meeting in January, in Chicago. The conference being one of the constituent groups of national missionary boards and societies of Protestant origin which together with National Christian Councils made up the world mission council. Dr. John R. Mott, honorary chairman, gave a resumé of accomplishments in the half century beginning in 1893, by the conference and the council. This, along with other numerous reports and remarks of speakers, was published in book form running to 309 pages with index.

CHURCH PENSIONS

Reports at the thirtieth annual session of the Church Pensions Conference in New York City in November, disclosed that 42,707 persons had received $14,369,224 in pensions and benefit funds from church pension boards. Constituent membership of 23 Protestant agencies reporting, including the national Y.M.C.A. and Y.W.C.A. pension boards, totalled 31,651,042. There were 126,251 ministers and secretaries and 146,357 churches and associations covered. Analysis of funds of more than $234,600,000 held by the agencies disclosed $151,555,619 in actuarial reserves, $72,343,051 in endowments, and $10,705,206 in other categories.

THE ROMAN CATHOLIC CHURCH

By Henry P. Lefebure
National Catholic Welfare Conference

EXPANSION IN WAR SERVICES

Among activities engaging the interest of the Catholic Church nationally, relief for victims of war and establishment of a peace founded on justice and charity received increasing emphasis during the United States' third year in the war. This was to be seen in the expansion particularly of activities of War Relief Services—National Catholic Welfare Conference; of aid to relief organizations around the world by the Bishops' War Emergency and Relief Committee; and, in international relations, of the Christmas Message of Pope Pius XII of which one nationally known commentator said: "If anything can save the peace . . . this Christmas Message will do so"; of the widely heralded statement of the Bishops of the United States on International Order; of the intensified activity of the Catholic Association for International

Peace; and the increasing attention given by all Catholic organizations to what specifications the peace must have, according to the moral law, in order to be a lasting peace with prosperity and concord among the nations.

RELIEF FOR WAR VICTIMS

Established in 1943 by the National Catholic Welfare Conference Administrative Board, War Relief Services-N.C.W.C. today is conducting a round-the-world program of relief in behalf of war-stricken civilians, refugees, prisoners of war, internees, and merchant seamen. The organization, a participating service of the National War Fund, operates chiefly through Catholic charitable agencies in 33 countries, according to a report to the Board of Trustees during the annual meeting in Washington.

Paramount among its activities is the large-scale program aimed at rehabilitation of thousands of Polish refugees, and personal services to the Polish military—a program carried on in 14 countries. Extensive welfare work, including provision of food, shelter, and clothing, is being done in the interests of thousands of "stateless" refugees in Spain and Portugal: welfare for orphans, the homeless, and the wounded in China, is chiefly in the form of medical aid.

Clothing for men, women and children, vital medical supplies and food concentrates have been sent to the needy and destitute of liberated Italy and Sicily. Altogether, more than 18,000,000 pounds of new and used clothes were collected in more than 100 dioceses of the United States for impoverished war victims of all liberated European countries. Special aid was extended to war-stricken Italians in Egypt.

Cooperating with other war-time relief agencies, War Relief Services-N.C.W.C. sponsored a worldwide program for aid to prisoners of war, contributing appreciably to the task of sustaining morale among the more than 2,000,000 prisoners in enemy and Allied Countries. In the period covered by the report, nearly 4,000 shipments of recreational, educational, vocational and religious materials with a value in excess of $5,000,000 were made to prison camps by the N.C.W.C. agency in furthering this vital humane effort. More than 9,000,000 articles were included in the shipments.

Thousands of merchant seamen of American and other Allied nations, stopping in ten United States and Canadian as well as 13 foreign ports, were the beneficiaries of a myriad of personal services rendered through Catholic Maritime Clubs operated fully or in part with funds provided by War Relief Services-N.C.W.C.

Other services provided included aid to (1) evacuated children, war orphans and refugees in England; (2) bombed-out people of Malta; (3) the native populations of Algeria and Tunisia, and (4) the work of the Catholic Committee for Refugees.

Funds contributed by the Bishops' War Emergency and Relief Committee financed a program of religious services for war victims, including purchase and distribution of more than 1,000,000 missals, rosaries, Mass music sheets, and other devotional aids.

DISTRIBUTION OF FUNDS

At the same time, the Bishops' War Emergency and Relief Committee, established in November, 1940, raised $1,500,000 in an appeal made in Catholic Churches on Laetare Sunday, March 19, 1944 and distributed funds wherever possible to established Catholic relief agencies in war stricken countries for aid to war victims regardless of creed, race or nationality.

Most of the funds were distributed through the facilities of the Holy See, the Vatican's status as a neutral agent enabling Pope Pius XII to aid the distressed populations of occupied countries as well as American prisoners of war in Germany, Italy, and to some extent Japan and other countries. Medicine, food, clothing and general relief was provided to refugees, war prisoners, interned civilians and homeless in cities and forgotten villages and towns in Europe, Africa, the Middle East, and the Orient.

Funds were given also to the Chaplains' Aid Association, which assists chaplains charged with the spiritual care of Catholics in the Armed Forces. Materials needed for the celebration of Mass and administration of the Sacraments have been provided for the more than 2,000 Catholic chaplains, and rosaries, missals, New Testaments and other religious articles were given to the chaplains by the Association for distribution to the men.

Another agency aided by the Committee is the Vatican Information Service, which has been responsible for carrying an estimated 2,000,000 personal messages between prisoners of war and their families as well as between refugees and their families.

The National Catholic Community Service also was provided funds which enabled it to help Catholic agencies serving Americans in the armed forces abroad. Clubs of this kind are operating in North Africa, Italy, Oceania, and elsewhere.

As is indicated by the foregoing, the Bishops' Committee does not itself administer a program of relief, but rather supplies funds to agencies experienced and able to function at this time.

ACTIVITIES FOR SERVICE MEN

The National Catholic Community Service, whose organization was authorized by the Bishops of the United States at their annual general meeting in November, 1940, continued its assigned work of looking after the spiritual and physical welfare of men and women on leave from Army bases and Naval stations, as well as war production workers during their hours of relaxation.

From a modest beginning of 61 operations in 1941, to an overall of 450 service units as of September, 1944, is the record outlined in the N.C.C.S. Annual Report issued in November, 1944. To meet the need for Catholic emphasis in the universal social work demanded by the war emergency, the Men's Division of N.C.C.S. operates USO clubs for the thousands in large military concentrations. The Women's Division undertakes the task of meeting the needs of migratory workers in war production plants and their families, who find themselves in strange communities with inadequate housing and without normal facilities.

In many cases, N.C.C.S. has singly operated service clubs, and in others has worked in cooperation with one or more of the other social agencies which comprise the USO. It was in January, 1944, that the organization reached its peak in 486 designations, of which 153 were operated by the Women's Division.

Club attendance from July 1, 1943, to the end of June, 1944, showed a total of 81,691,965 constituents served.

The program of activities has been flexible in meeting needs as they arose. The clubs offer assistance in primary welfare requirements—housing, and aid in common everyday needs, from a place to shave or to press a uniform, to classes in mathematics—as well as a spiritual, recreational, and educational program.

As a greater number of uniformed men were transferred overseas, the program was adjusted to meet the requirements of embarking soldiery, and more recently, the needs of those returning from theaters of war—the discharged, the wounded, and the convalescent.

COMMUNITY WELFARE WORK

To keep pace with the total program, an increasing number of volunteers was required. Strengthened by local diocesan groups and N.C.C.S. committees, together with a patriotic citizenry which did not hesitate to serve N.C.C.S., although not always sharing the same faith, the enrollment amounted to a total of more than 200,000 volunteers during the past year. Through N.C.C.S. training courses, an able potential leadership in community welfare has been established, capable of meeting responsibilities in the post-war world.

During the past year the organization also advanced steadily in providing services to Negroes, both in the armed forces and industry. There are now 64 communities in which programs for Negroes are operating under trained Negro leadership.

Supplementing the war service, has been the growing number of independently managed N.C.C.S. operations in this country. Owing to the cooperation of Catholic laity working under the guidance of local priest-moderators, these clubs performed a notable wartime service.

In the overseas areas, Catholic residents near actual theatres of war appealed to N.C.C.S. to assist them in establishing centers for members of the Allied forces. As a result, N.C.C.S. clubs were opened by these affiliated groups in Heliopis (near Cairo), Naples, Rome, Florence, and in the Fiji Islands with subsidies made available from the Bishops' War Emergency and Relief Fund. The N.C.C.S. club in Rome, particularly, has been an important focal point.

STATISTICS

Catholics in the United States number 23,419,701, according to figures given by the Diocesan Offices and compiled by the *Official Catholic Directory*. A total of 90,822 converts was reported for the year, a larger number than ever before.

The Archdiocese of Indianapolis was created in 1944, raising the total to 21, while three new Dioceses were named: Steubenville, Evansville, and Lafayette in Indiana, for a total of 101. The number of clergy was 25,299 diocesan priests and 12,450 religious order priests, the largest number of ordained clergymen, 37,749, yet recorded.

Professed religious personnel include 6,162 brothers and 133,985 sisters; of the latter, 57,077 are engaged in work other than teaching. The teaching staffs of all educational institutions under Catholic auspices total 92,421, comprising 4,647 priests devoting their full time to teaching; 3,233 brothers; 76,908 nuns and 7,633 lay teachers.

EDUCATIONAL ACTIVITIES

The grand total of 10,684 separate educational institutions embraces 55 diocesan seminaries; 246 religious order seminaries or novitiates; 224 colleges and universities for men and women; 1,443 diocesan and parochial high schools; 753 private high schools; 7,436 elementary parish schools; and 527 private elementary schools. In addition, there are 160 protective institutions for children and 6,264 religious vacation schools, with 553,674 Catholic public school children receiving religious instruction during released time or outside regular school hours, a number equal to 27.7 per cent of the total, full-time enrollment in all elementary parish schools.

Statistics available for the first time make it possible to establish the fact that there is now an aggregate of 3,027,856 American youth under Catholic instruction. This total does not include the 46,178 children in 369 orphanages and infant asylums, or the 18,966 children in foster homes.

Wartime conditions are again evident in both the reduction of the number of elementary parish schools by 211 to the present total of 7,436 compared to the decrease of 54 schools in the previous year, and in the decrease of 52,514 pupils in elementary grades to the present total of 1,996,209. The 1943 elementary school enrollment in turn reflected a decrease of 16,475 from the previous year.

It is believed that the general population shifts to war industry areas before Pearl Harbor, with many Catholic families removing to centers without adequate parochial school facilities, may account in large measure for these decreases in enrollment.

SCHOOLS' WARTIME ACTIVITY

During 1944 Catholic education continued to serve the nation at war. Wartime facts were brought to the attention of school administrators. Programs in connection with Selective Service registration, pre-flight training in aeronautics, and secondary school credit for educational experience in military service were carried out with the cooperation of school authorities.

The N.C.W.C. Department of Education continued to cooperate with the U. S. Treasury Department in promoting sales of war bonds and stamps in Catholic schools. An analysis of reports from schools of 72 dioceses showed sales in the amount of $60,068,956.02.

NATIONAL CATHOLIC WELFARE CONFERENCE

Many of the activities of the Church in the United States clear through the National Catholic Welfare Conference, official agency of the Archbishops and Bishops of the country. Membership in the N.C.W.C. includes every Bishop of the Church in the United States and in its territories and possessions. Outside the annual meeting of the Hierarchy, usually held in November of each year, the work is carried on through the Administrative Board of the Conference and episcopal committees appointed by the General body.

It should be recalled that the incorporated purposes of the N.C.W.C. are "unifying, coordinating and organizing the Catholic people of the United States in works of education, social welfare, immigrant aid, and other activities." Thus, the N.C.W.C. serves as a central clearing house of information and assistance in a great variety of Catholic interests through the maintenance of its several departments and bureaus, the listing of which indicates their scope and fields of interests: Executive, Youth, Education, Press, Social Action, Legal, Lay Organizations (National Council of Catholic Men, National Council of Catholic Women), and Catholic Action Study.

The Executive Department maintains Bureaus as follows: Immigration, the National Center of Confraternity of Christian Doctrine, Family Life, Information, Publications, Business and Auditing. This Department is also responsible for the publication of *Catholic Action,* monthly publication of the N.C.W.C. The Education Department maintains bureaus as follows: Health, Library Service, Statistics and Information, Teachers' Registration. The Social Action Department has a separate division, Rural Life Bureau. The Catholic Conference on Industrial Problems, and the Catholic Association for International Peace, although not under the N.C.W.C., function largely under this department.

Each year, in November, there is submitted to a general meeting of the American Hierarchy by the Administrative Bishops of the N.C.W.C. reports of activities for the previous year. At this general meeting are elected the members of the N.C.W.C. Administrative Board, deputed by the general body to carry out its wishes for the coming year.

N.C.W.C. ADMINISTRATIVE PERSONNEL

At the 1944 General Meeting, held in Washington, Nov. 13-17, and attended by 103 members of the Hierarchy, the following Archbishops and Bishops were elected to serve as members of the N.C.W.C. Administrative Board: The Most Rev. Edward Mooney, Archbishop of Detroit, Chairman; the Most Rev. Samuel A. Stritch, Archbishop of Chicago, Vice Chairman and Treasurer; the Most Rev. Francis J. Spellman, Archbishop of New York, Secretary; the Most Rev. John T. McNicholas, O.P., Archbishop of Cincinnati, Episcopal Chairman of the Department of Education; the Most Rev. Joseph F. Rummel, Archbishop of New Orleans, Episcopal Chairman of the N.C.W.C. Legal Department; the Most Rev. John J. Mitty, Archbishop of San Francisco, Episcopal Chairman of the Department of Catholic Action Study; the Most Rev. John Gregory Murray, Archbishop of St. Paul, Episcopal Chairman of the Press Department; the Most Rev. John F. Noll, Bishop of Fort Wayne, Episcopal Chairman of the Department of Lay Organizations; the Most Rev. Karl J. Alter, Bishop of Toledo, Episcopal Chairman of the Department of Social Action, and the Most Rev. James H. Ryan, Bishop of Omaha, Episcopal

Chairman of the Youth Department.

The Administrative Board invited the Most Rev. Michael J. Ready, newly named Bishop of Columbus and former General Secretary of the N.C.W.C., to serve as an Assistant Bishop to the Board. He was assigned the office of Assistant Secretary. The Very Rev. Msgr. Howard J. Carroll, Assistant General Secretary since 1938, was named by the Administrative Board to be General Secretary of the N.C.W.C. He succeeds Bishop-elect Ready who had served as General Secretary since 1936. The administrative Board reappointed the Rev. James Lawler, a priest of the Archdiocese of Chicago, to serve as Assistant to the General Secretary. The offices of the N.C.W.C. were utilized more in 1944 than in any war year thus far, according to the reports submitted.

Archbishop Mooney, chairman of the Executive Department, said that "the Conference has continued to lend its services to all Government departments in cooperation with the war effort." The importance of Latin America in international affairs continues to be reflected at N.C.W.C. headquarters, the Archbishop said, through correspondence, distinguished visitors from Iber-America, and the special work which Dr. Richard Pattee, history scholar and writer, has undertaken in Latin America for the Conference.

Archbishop Mooney reported the concern of the Administrative Board and of the Bishops that proposed advertising and educational campaigns against venereal disease be of a nature within moral bounds. Already a matter of deep moral concern when confined to members of the armed forces, he said, these "educational" campaigns are now projected for the general public.

THE POLISH PROBLEM

The dispute between Poland and Russia has been of national interest, Archbishop Mooney said, pointing out that "of particular concern has been the political and religious fate of thousands of Catholic Poles living in the territory now under Russian domination."

"The concern for the rights of the Church and the welfare of millions of Catholics," he continued, "as well as our bonds of sympathy with their kinfolk in this country, is the basis of our interest in the controversy. The Atlantic Charter and other policies of the United States inspire us to work as citizens to the end that justice may be done toward Poland."

Reporting that the N.C.W.C. has just completed its first year as publisher of *Acta Apostolicae Sedis,* official publication of the Holy See, Archbishop Mooney reported that subscriptions to this work have been received from 38 countries.

CATHOLIC PRESS ABROAD

Rounding out a quarter of a century of solid progress, the N.C.W.C. News Service took an unprecedented step of importance during the year when Burke Walsh, assistant director, was sent overseas as a war correspondent and reported first-hand the fall of Rome and the immediately ensuing months in the Eternal City. This enterprise provided the Catholic Press with a splendid stream of information on the activities of the Holy See and greatly enhanced the prestige of the Catholic Press and of the News Service.

Noticias Catolicas, the Spanish-language service issued by the N.C. W.C. Press Department, made progress in a peculiarly difficult time. This service brings the Catholic body of the United States and of the Latin American countries in closer touch.

INDUSTRIAL CONFERENCES AND PEACE WORK

Through regional industrial conferences and other activities the Social Action Department focused attention on economic problems bound up with the carrying on of the war and with plans to prevent as much post-war unemployment as possible. During the year, five regional industrial conferences were held—at Richmond, Chicago, Toledo, Brooklyn, and Butte, Mont.

The outstanding undertaking in the field of international peace was the aid extended "to formulate the seven-point statement which religious leaders of the three major faiths signed with separate preambles, securing the Catholic signatures to it and popularizing it." The statement, which has gained widespread attention, has become known popularly as the "Pattern for Peace."

The Family Life Bureau has continued to emphasize the gravity of the family problem and has suggested positive activities for its correction, while the National Catholic Rural Life Conference has used its influence and prestige in support of the extension and development of family-size, owner-operated farms.

YOUTH ACTIVITIES

In the N.C.W.C. Youth Department report, it was observed that, more and more, the activities of parish youth organizations are retreating to the younger age groups and concerning themselves with essential religious activities rather than with the full program of social, recreational, and vocational guidance, and cultural activities, a trend which has arisen partly because of the war.

During the year the Youth Department compiled and issued a directory which gives the parish priest the names and addresses of the executive officers of dozens of organizations that can aid him in planning activities for his varied groups of youth. The directory also is of inspirational value, since it displays for the first time the really extensive organizational structure of the Catholic Youth Apostolate.

IMMIGRATION PROBLEMS

Customary war-induced demands upon services of the N.C.W.C. Bureau of Immigration continued at a steady pace throughout the year. The migration picture was changing as new military and political situations developed. Government regulations regarding travel, both in our own and in foreign countries, were complex and strictly applied. The Bureau had to be continually on the alert to give accurate advice and the best attention to important matters entrusted to its handling.

RADIO PROGRAMS

The Catholic Hour completed its fourteenth year and is being carried by 89 stations of the N.B.C. Network, over which it is heard each Sunday. Nearly 2,000,000 pamphlets containing 7,262,936 addresses have been distributed since the inception of the program. N.C.C.M. also produced the Hour of Faith radio program heard each Sunday over the Blue Network. This was originally carried over a chain of 26 stations and is now being broadcast by 41 stations.

CONFRATERNITY ACTIVITIES

Appointment of directors of the Confraternity of Christian Doctrine in the Archdiocese of Newark and in the Diocese of El Paso brought the total of official appointments to 108. More than 200,000 pieces of literature were distributed to Confraternity officers and members in the United States. Non-commercial publishers in the United States were given permission to reproduce Confraternity copyrighted texts of the Revised Baltimore Catechism and of the New Testament.

THE EASTERN CHURCHES

By E. R. Hardy, Jr.
General Theological Seminary

EASTERN ORTHODOX CHURCHES IN AMERICA

The Eastern Orthodox Churches have continued to be much concerned over the spiritual welfare of the men and women of their constituency in the armed forces, of whom there are at least 150,000, and probably many more. The only Orthodox chaplains so far appointed are four representing the Russian Orthodox Church, three in the Army and one in the Navy. Their ministrations have been much appreciated—one chaplain at a port of embarkation on the West Coast has celebrated the Liturgy daily with congregations of 40-50 from the various Orthodox Churches—but of course can only reach a fraction of those involved. Priests and parishes have made every effort to keep in touch with their service men and women.

The Greek and Russian Churches have published and distributed through their parishes special soldiers' and sailors' prayer books, containing the commonest prayers in English and in Greek and Slavonic respectively. The Greek Church has especially encouraged its clergy to visit nearby camps, conducting services when possible, and several of its bishops have undertaken such visitations. As a result of cooperative effort, a *Prayer Book for Eastern Orthodox Christians* was published by the YMCA in the fall of 1944 under the imprimatur of Metropolitan Antony of the Syrian Church. Edited by Fr. Horton-Billard of the Syrian and Fr. Hategan of the Romanian Church, it contains in a pocket-size volume much instructional as well as devotional material, and should be of considerable value in preserving Orthodox piety among the American-born and English-speaking adherents of Orthodoxy. A military edition of 50,000 is being distributed through the various Churches, and others are in preparation. The regulation permitting soldiers to register their actual religious affiliation is much appreciated by the Orthodox, since the term Protestant does not apply to them, nor does Catholic as usually understood.

The Serbian Church has withdrawn from the Federation of Primary Orthodox Jurisdictions which was formed and incorporated in 1943. The representatives of the Patriarchates of Constantinople (Greek), Antioch (Syrian), and Moscow (Russian) remain, along with the Romanian, Ukrainian, and Carpatho-Russian Churches, but the Federation as such was inactive in 1944.

GREEK (HELLENIC) ORTHODOX CHURCH

The Greek Church was saddened by the death on May 28 of Bishop Eirinaios (Tsourounakis) of San Francisco. A native of Cyprus, and formerly a parish priest in Chicago and New York, Bishop Eirinaios had been consecrated to the episcopate on Nov. 23, 1941, and in spite of bad health had endeared himself to the Greek Communities of the West during his short term of office. Bishop Gerasimos of Chicago is, for the time being, undertaking visitations in the territory formerly assigned to Bishop Eirinaios.

On June 28 Archbishop Athenagoras delivered an important address at the new Chicago headquarters of the Archdiocese to the clergy and lay leaders of the Greek communities of Chicago. Explaining why this building was the Chicago headquarters of the Archdiocese, rather than the headquarters of a Chicago diocese, he emphasized the advantages which the Archdiocese of America enjoys from its present unified organization under the Patriarchate of Constantinople. This not only preserves unity with the Mother Church, but also makes possible a unified program and common planning of finance and personnel for the Greek Church in America. In its work, the Archbishop has enjoyed the full cooperation of the Assistant Bishops, the clergy, the teachers, the organizations of the Church, the Greek press, and the laity generally. In this spirit the Church will continue to serve both America and the Greek people.

Since 1931 its parishes have paid off $6,000,000 in debt, and are now nearly debt-free and able to devote themselves to the improvement of their church buildings and to the advancement of the Church generally. One of the most important contributions to the latter is the support of the Seminary at Pomfret, Conn., by which the shortage of priests is being relieved. Another will be the school for which a building has been acquired near West Point, N. Y. This institution, to be known as the Academy of St. Basil, will be both a school and home for children, and also a training center for religious teachers for the Greek schools of the country.

On Oct. 15 services were held celebrating the liberation of Athens. At the Cathedral in New York, Archbishop Athenagoras officiated, and representatives of the Greek Government were present.

RUSSIAN ORTHODOX CHURCH

The episcopal Synod of the Russian Orthodox Church met to discuss the affairs of the Church, and formally applied for admission into the Federal Council of Churches. This application was accepted at the biennial meeting of the Federal Council in Pittsburgh in November. The Russian Church is the third Orthodox body to join the Federal Council (the Syrian and Ukrainian having preceded it), and the largest of those which have done so thus far.

The year marked the sesquicentennial of the arrival of Orthodoxy on the American Continent with the first Russian mission to the Aleutian Islands in 1794. Various celebrations of this event were held, climaxed by a series of services and meetings at which Metropolitan Theophilus presided in New York on Oct. 7-8.

The above notes refer to the main body of Russian Orthodox in America under Metropolitan Theophilus. Smaller groups adhere directly to the Moscow Patriarchate or form independent organizations. One of the latter, formerly connected with the "Living Church" in Russia, occupies the old Russian Cathedral in New York; its leader, Bishop Kedroff, died in May, and was succeeded by his brother, who was consecrated by independent Greek and Ukrainian Bishops.

Metropolitan Benjamin, Patriarchal Exarch for America, expects to attend the Synod to be held in Moscow early in 1945 for the election of a Patriarch. The Russian Orthodox Church of North America is sending a delegation headed by Bishop Alexei of Alaska.

OTHER ORTHODOX CHURCHES

On June 11 Bishop Dionisie of the Serbian Church consecrated St. Sava's Cathedral in New York recently bought from Trinity (Episcopal) Church. He was assisted by Bishop Germanos of the Greek and Bishop Makary of the Russian Church; Bishop Manning of the Episcopal Church was also present. The Syrian Church has adopted as its official organ an all-English magazine, *The Orthodox American*, published by the Very Rev. Michael Gelsinger of St. Mary's Church, Niagara Falls, N. Y.

ORTHODOX CHURCHES ABROAD

In the Balkans, the Orthodox Churches continue to suffer and struggle with their respective nations, and are usually represented on all sides of the divisions of the countries involved. Archbishop Damaskinos of Athens, who was appointed Regent of Greece on Dec. 30, is a distinguished scholar and churchman who formerly served as Metropolitan of Corinth. He was elected to the See of Athens in 1938, but the election was quashed on technical grounds by the Greek dictatorship then in power. Although allowed to assume office under the Germans, he did not show the expected subservience, and came out of the ordeal of the occupation with credit.

On July 13 the Very Rev. Sergius Bulgakov, a distinguished theologian of the Russian Church, died in Paris, where he had headed the (Russian) Orthodox Theological Academy for the last 20 years. A former Marxian, and as a layman active in liberal movements in politics under the old regime, he had taken Orders in 1918 and has since been one of the chief representatives of the Russian school of philosophical theology. Memorial services were held for him in Paris, London, and New York.

The death of Patriarch Sergius of Moscow on May 15 terminated a career which had seen great vicissitudes and a short but significant Patriarchate. Since his installation as Patriarch in the fall of 1943, considerable progress had been possible towards the reorganization of church life in Russia: a number of vacant dioceses were filled, the independence of the Church of Georgia was recognized, and arrangements made for the opening of a theological school in Moscow. Many Bishops and priests have returned from the "Living Church" schism to the patriarchal Church. Metropolitan Alexei of Leningrad was chosen as Acting Patriarch, and announced his intention of following the late Patriarch's policy of loyalty to the canons of the Church and to the Soviet Constitution.

OTHER EASTERN CHURCHES

The Very Rev. Vartabed Diran Nersoyan, formerly of the Armenian Church in London, arrived in New York as prelate of the Armenian Prelacy of the United States (outside California). His predecessor, Archbishop Hovsepian, is on his way to assume office as Catholicos of Cilicia. The Vartabed Poladian, who is returning with him, has recently published an Armenian-English book of prayers, and a smaller English edition for servicemen. Many Armenian parishes celebrated this fall the 1500th anniversary of the translation of the Armenian Bible. In Jerusalem the Grand Sacristan Cyril Israelian has been elected Patriarch.

The Assyrians of Chicago have purchased a residence in Evanston for Mar Shimun XXIII, Catholicos of the Assyrian (Nestorian) Church of the East. Present head of the patriarchal family and of the Assyrian Church and nation, he hopes to be able to bring his family to America from Cyprus. On behalf of his Church, Mar Shimun has accepted membership in the World Council of Churches and applied for admission to the Federal Council. For the use of the Assyrian parishes in this country, most of which worship in connection with Episcopal or Protestant churches, a version of the Assyrian Liturgy with transliteration and translation of the Syriac text has been prepared, thus enabling choirs of English-speaking young people to participate. The bulk of the Assyrians, however, are still settled in Iraq, and their future is uncertain.

JUDAISM AND JEWISH COMMUNAL AFFAIRS

By Harry Schneiderman
Editor, *American Jewish Year Book*

GENERAL

Although there are no official statistics on the number of Jews in the United States, since the U. S. Census does not inquire into religious affiliation, reasonably exact estimates put it at 5,000,000, or 3.7 per cent of the total population. The great majority of them are American by birth. Most of them are concentrated in large urban communities; half of the United States Jews live in the New York metropolitan area, yet, there are many widely distributed throughout the country, and their occupational distribution follows the pattern prevailing in the urban communities where they live.

Since the outbreak of the war, the thinking and the planning of the Jewish community in the United States has been dominated by efforts to meet the needs and problems arising from the conflict. During 1944 the hopes of the Nazis for victory rapidly diminished, yet, their ruthlessness against their victims continued unabated. Consequently, in addition to the service of their country, American Jews and non-Jews bent their energies toward the alleviation of the misery of the oppressed countries' civilian populations.

As the end of the war draws nearer, thought is also being given to the reconstruction and the rehabilitation of Jewish communities in the liberated countries, as well as to the establishment of a world order which would permit the peaceful and unhampered development of all human beings.

CONTRIBUTION TO THE WAR EFFORT

Dr. Samuel C. Kohs, director of the Jewish Welfare Board's Bureau of War Records, estimated that, at the beginning of 1944, there were approximately 500,000 Jews in the armed services. This number has increased since. Although no new figures have yet been published, it was repeatedly stated that the representation of Jews has at all times been proportionate to their number in the communities and that, as among the rest of the population, there is hardly a Jewish family which has not some member on the battlefronts. A mid-year release moreover, estimated that 2,800 Jewish men received decorations for bravery in action. Of these 30 have won 10 awards or more each, or a total of 345 decorations.

Special efforts are being made by the Jewish Welfare Board to minister to the cultural, educational, religious, and recreational needs of the fighting men. Both chaplains and JWB workers toured all parts of the British Empire, the European fronts, the Pacific, and the Latin American countries to bring good cheer to the men.

Jews contributed their numerical proportion to the casualties in this war. To aid the wounded unable to return to active service and to prepare for the rehabilitation of veterans after the war, the Jewish Welfare Board in October, established a National Committee on Service to Veterans, with which 14 national organizations are affiliated. The central committee was especially designed to give advice and information to national and local veteran service agencies, to assist in overall veteran service planning, and to consult in advisory capacity with government agencies.

Jews participated also in general drives in support of the war effort. The total contribution of American Jewry to the various War Loan drives can not be exactly ascertained. At the beginning of 1944, a Treasury Department citation was presented to the Jewish War Veterans of America for selling more than $25,000,000 worth of war bonds, more than twice its quota. Hadassah's total war bond sales exceeded $50,000,000. A Treasury citation was awarded to 17 B'nai B'rith lodges and women's auxiliaries in Greater New York. In appreciation of the purchase of $400,000 in war bonds in the Third War Loan Drive by members of the Jewish National Workers' Alliance, a flying fortress was named after this organization. Similarly, the Zionist Organization of America sold $5,000,000 in bonds among its membership during the month of June and received a Treasury citation for increasing this amount by $15,000,000 during the month of July. B'nai B'rith bond sales during the Fifth War Loan campaign had reached $72,245,000 in the middle of the same month. An outstanding individual contribution was Albert Einstein's donation of two manuscripts, including the one expounding his theory of relativity, which brought $11,500,000 in war bonds at an auction.

REACTION TO EVENTS ABROAD

Important to Americans everywhere was the rescue of those unfortunates caught in the Nazi trap who are exposed to all the cruelties of the still undefeated Germans. While numerous blueprints for the rescue of these victims were mapped out by Jews and non-Jews, attempts were made to halt persecution of the Jews by repeated warnings from the United States and from other nations that severe punishment awaited the perpetrators of the crimes.

Organizations and individuals joined in petitioning the Government to do its utmost in clarifying the relentless position of the United Nations in its resolution to bring the criminals before courts of justice; strong warnings were flashed to the enemy abroad. Thus, when nearly 1,000,000 Jews of Hungary suddenly fell prey to the German armies in March 1944, the American Jewish Committee, in a telegram to Secretary of State Cordell Hull, urged the leaders of the United Nations to issue a joint statement reaffirming previous pledges of punishment. Similar appeals were later made by the American Jewish Conference and by many other groups. On March 24, President Roosevelt, referring especially to Hungary and the Balkans, appealed to the peoples of Europe to give all possible aid to the persecuted, pledged continued rescue efforts, and stressed the United Nations' determination to avenge outrages.

Public approval and commendation of this statement were followed by unusual action in Congress. The Senate Foreign Relations Committee, in a statement on June 3 condemning the threatened extermination of Hungary's Jews, suggested ways and means by which Hungarians could halt this persecution. They included refusal to purchase Jewish property, resistance to Nazis and native collaborationists, keeping a record of accessories to murder, and helping Jews escape across the border. The statement was relayed by the Office of War Information in various foreign languages to the European continent. During the same month, the House Foreign Affairs Committee, too, called upon Hungary to stop the persecution of helpless Jews. Secretary Hull maintained that there can never be too many persons, officials or groups joining in such strong and indignant protest; at the same time he repeated the warning to war criminals issued at the Moscow conference. Christian religious leaders, such as Archbishop Francis J. Spellman of New York and Dr. Samuel McCrea Cavert, general secretary of the Federal Council of the Churches of Christ in America, added the voices of Catholic and Protestant America to the general appeal.

BLUEPRINTS AND ATTEMPTS AT RESCUE

Comprehensive planning for the rescue of European Jews continued during 1944. One of the first was set forth by the National Committee Against Nazi Persecution and Extermination of the Jews, founded by a number of eminent non-Jews under the chairmanship of Supreme Court Justice Frank Murphy, on Jan. 30, 1944, the eleventh anniversary of Hitler's rise to power. Asserting that "there is no more shocking violation of human conscience than the persecution and threatened extermination of the Jews in Europe," Justice Murphy outlined the work of the committee as: (1) to secure the full backing of American public opinion in condemnation of Nazi persecution and extermination of the Jews and in the support of a vigorous rescue program on part of the United Nations; (2) to expose and combat anti-Semitic propaganda in the United States as a powerful weapon of the enemy; (3) to bring public pressure to bear on officials who either "condone, commit or fail to oppose the persecution of Jews"; (4) to cooperate with similar organizations here and abroad in mobilizing the United Nations for rescue of Nazi victims and threats of punishment for crimes perpetrated by Germans or their collaborators. Of interest in this connection is the fact that the committee recognized anti-Semitic propaganda in this country as one of the means employed by Hitler's Reich to undermine our democratic institutions in preparation for the defeat of the United States.

The International Labor Organization, at its conference in Philadelphia in May 1944, attended by labor delegates from 24 countries, prepared another rescue plan. A resolution urged not only that warning of punishment be repeated by our government, but also that Jews still alive in Nazi-held territories be regarded as prisoners of war; that Palestine be kept open for Jewish immigration; and that "free ports" be established for refugees from Nazi terror in democratic countries.

THE RESCUE PROGRAM

While plans for the rescue of Nazi victims were being made, the United States government implemented at least part of the general programs. As a first step, on Jan. 22, 1944, President Roosevelt set up a War Refugee Board composed of the Secretaries of State, War, and Treasury, in accordance with "the policy of this Government . . . to rescue the victims of enemy oppression . . . in imminent danger of death and otherwise to afford (them) all possible relief and assistance consistent with the successful prosecution of the war." This Board was to take immediate action to save "as many as possible of the persecuted minorities of Europe, racial, religious or political, all civilian victims of enemy savagery." The Board, in cooperation with the United Nations and neutral governments, the Inter-Governmental Committee on Refugees, the United Nations Relief and Rehabilitation Administration, and other interested international organizations, was asked to prepare plans and institute effective measures for "the rescue, transportation, maintenance and relief of the victims of enemy oppression and the establishment of havens of temporary refuge for such victims." President Roosevelt stressed in a White House statement the urgency for immediate action. This move was greeted with great enthusiasm by many organizations and public officials. HIAS (Hebrew Sheltering and Immigrant Aid Society) accompanied its statement of commendation with a check for $100,000 as its contribution to its work.

The War Refugee Board held its first meeting on Jan. 26, after which United States diplomatic and consular offices throughout the world were instructed to give full cooperation in carrying out the Government's war refugee policy. The Government also requested private agencies to submit concrete rescue proposals and contributions; a number of Jewish organizations complied.

At the second meeting of the Board, John W. Pehle, executive director, submitted a report of past activities. It had enlisted the aid of all United States diplomatic, fiscal, and military agencies, as well as the facilities of the Office of War Information and the War Shipping Administration and had appointed representatives in Turkey, Egypt, Portugal, Sweden and Switzerland.

Conferences between the heads of the War Refugee Board and the Intergovernmental Committee on Refugees were held in Washington during April. At that time a joint statement was released which announced that the two agencies had reached an agreement on the division of labor to lend maximum effectiveness to the rescue efforts of these bodies. They had decided upon an exchange of information and concrete assistance wherever feasible.

An important milestone in the implementation of the rescue program was the acceptance of the "free port" suggestion by President Roosevelt and the War Refugee Board. That serious consideration was given to such a plan became evident at a press conference held jointly by John W. Pehle and Ira Hirschmann, the Board's special representative at Ankara, Turkey. Reserved areas were to be created in the United States, near eastern ports, where refugees, having no other means of immigration, were to remain until arrangements for their permanent disposition were possible. The areas were to be fenced, and those permitted to live there would not be legal residents and, would therefore not be subject to immigration quota restrictions. The importance of the plan, as then devised, lay not only in affording asylum to a number of refugees in the United States, but also in encouraging other countries to take similar action.

The very favorable reception of the scheme by American public opinion resulted in the introduction of a resolution by both major parties and the American Labor Party in Congress asking for the immediate establishment of free ports.

POST-WAR PLANNING

Although the energies of Jewish organizational life and of the general public were concentrated largely on the immediate task of saving as many Jews as possible from destruction, as evidenced by the refugee shelter established at Fort Ontario, Oswego, N. Y., much thought was given also to the reconstruction of the Jewish communities in the post-war world. Numerous plans outlining the restitution of the rights of Jews as citizens, their economic rehabilitation in the liberated countries, and the administration of immediate relief, were submitted to government officials and agencies.

At its 37th annual meeting on Jan. 30, 1944, the American Jewish Committee proposed a program for post-war reconstruction, including guarantees for the complete equality of Jews in the respective countries, in the administration of relief, in repatriation and rehabilitation, the facilitation of their emigration wherever necessary under the most favorable conditions, and the development of Palestine as an economic, religious, and cultural center for Jews who desire to settle there. As part of this program, the Committee, in March 1944, addressed letters to the Adjutant General of the U. S. Army and to the various governments-in-exile, asking that complete equality of rationing be immediately instituted for Jews in the liberated areas. The Adjutant General's reply referred to government policy calling for the prompt elimination of Nazi discriminatory practices in the liberated areas.

Five months later, the Committee took the first official step in an attempt to secure in the peace terms "reaffirmation of the fundamental principle" that Jews, as good citizens of their respective countries, must be guaranteed equality of rights. It addressed a letter to Secretary of State Hull proffering its services in the formulation of peace terms which would meet the requirements of the overseas Jewish communities. Simultaneously the Committee filed with the Department of State a declaration of views on the basic premises for the restoration and maintenance of Jewish rights and set up the Committee on Peace Problems, composed of Jewish leaders throughout the country, which was to study and draft measures for reconstruction. In December, again, the Committee made public a six-point international bill of rights, sanctioned by 1,326 distinguished Americans of all faiths. It was modeled on the American Bill of Rights and advocated, in addition to the recognition of human rights as the "cornerstone of our . . . civilization" the establishment of new homes for those who suffered persecution under Hitler.

Similar demands were made by the American Jewish Conference in a four-point "International Bill of Rights" suggested to the State Department on Aug. 14. Again, in September, the Conference submitted a memorandum to the State Department asking the immediate nullification of all anti-Jewish measures and the restoration of equal rights to Jews and to Jewish organizations in all liberated countries. The Conference voted to retain its program of rescue and rehabilitation of European Jewry at its second annual convention held in Pittsburgh Dec. 3-5.

Secretary Hull had received a communication from the American Council for Judaism, earlier, in October, urging the adoption of a national policy extending post-war aid only to those countries which accepted the concept of equality for all their nationals of whatever creed or race. This organization joined in the universal request for a program of rehabilitation of Europe's Jews and the restoration of their rights and obligations on an equal footing with their fellow nationals; it also stressed its often repeated opposition to the establishment of Palestine or any other territory as a "Jewish State or Commonwealth."

Still another program adopted by the War Emergency Conference of the World Jewish Congress, held in Atlantic City Nov. 26 to Dec. 1, and attended by delegates from 38 countries, asked for: the creation of a joint planning commission to represent Jewry before the United Nations; the coordination of Jewish groups concerned with the rehabilitation of Jewry; establishment of Palestine as a Jewish Commonwealth; abrogation of anti-Jewish legislation in the liberated countries; scrapping of anti-

Jewish measures as a pre-condition of armistice with the Axis countries; restoration of citizenship status to Jews; adoption of an international bill of rights for the inhabitants of all countries without distinction of race or religion; adoption of legislation, both national and international, outlawing anti-Semitism; re-establishment of Jewish communal organization in liberated countries; restitution, individually and collectively, for losses suffered by the Jews through Nazi acts; and United Nations' recognition of the necessity for relief and rehabilitation for Jews.

STATUS OF JEWS IN UNRRA PROGRAM

It has been long recognized that the vast task of rehabilitating the Jewish communities of war-torn and Nazi exploited Europe can not be accomplished without aid from the United Nations. When the United Nations Relief and Rehabilitation Administration (UNRRA) was first established for the relief of victims of war in areas liberated from Axis control, a number of Jewish groups recommended that the needs of the Jews be given special consideration. Although no such provisions were made at the first session of the organization's Council at Atlantic City, Nov. 10 to 29, 1943, Sir George Rendel, member of the British delegation, did give promise of action by stating that UNRRA would do everything in its power to repatriate Jews driven out of their homeland by the war. He stated that UNRRA should consider them its responsibility until such a time when the Inter-Governmental Committee can remove them to new places of settlement. Since under UNRRA agreement, private charity can work in liberated areas only under this agency's direction, the organization has announced its intention to "enlist the cooperation of any . . . . voluntary relief agencies and seek their participation in relief and rehabilitation measures which they have the competence, personnel and other resources to administer . . ." It was, therefore, expected that the activities of the various Jewish relief organizations would be integrated with the UNRRA program as a whole. The effective functioning of these agencies was assured, since, according to an interpretation of an UNRRA resolution by Assistant Secretary of State Dean Acheson, it was provided that "in determining the relative needs of the population there may be taken into account the diverse needs caused by discriminatory treatment by the enemy during its occupation of the area."

The status of the Jews in the UNRRA program finally was clarified in a resolution adopted by the Policy Committee of the UNRRA Council meeting in Montreal on Sept. 22. Following appeals from major American and Canadian Jewish organizations that aid be extended to victims of Nazi persecution who are not Allied nationals, relief was authorized for Jews of enemy nationality and stateless persons deported or forced to leave their homes because of race, religion or anti-Nazi activities, who are found in enemy, ex-enemy, or liberated territory. At the same time, a unified program of proposals for the relief, resettlement, and repatriation of Jewish refugees in all countries was presented by a spokesman on behalf of the American Jewish Conference, the American Jewish Committee, the World Jewish Congress, the Canadian Jewish Congress, Agudas Israel, and other affiliated organizations.

OVERSEAS RELIEF

While the huge task of rehabilitating the persecuted Jews of Europe still lies ahead, communally supported agencies in the United States, together with those in other free countries, again have done their utmost to bring temporary relief to the people left destitute after years of Nazi enslavement and military operations. These functions, performed in conjunction with the War Refugee Board, the International Red Cross, UNRRA, and the Intergovernmental Committee for Refugees, have largely been financed by the United Jewish Appeal (UJA), the coordinating fund-raising agency for the American Jewish Joint Distribution Committee (JDC), the United Palestine Appeal (UPA), and the National Refugee Service.

The generosity with which Americans have contributed to this organization is clearly demonstrated in a five-year review issued in September which revealed that Jews in 4,200 communities have contributed $82,000,000 ($100,000,000 by December 1944) to the UJA since the beginning of the Second World War; that, of this money, the JDC has appropriated $47,530,000 for worldwide rescue and relief and helped 79,000 Jews escape from Nazi Europe; that 55,000 Jews were settled in Palestine with the aid of the UPA; and that the National Refugee Service spent $11,837,200 for adjustment and integration aid to large numbers of Jewish refugees in the United States. For the year 1944, the UJA set itself a quota of $32,000,000, of which $30,000,000 had been raised by December, $9,000,000 in New York City alone. It was disclosed on June 30, that its constituent agencies spent the record sum of $20,600,000 for overseas relief and refugee aid during the first six months of the year.

Of this sum, the JDC, the largest unified overseas relief agency of the American Jews, marking thirty years of uninterrupted service, adopted the largest budget in its history, $17,000,000. During the first six months of the year, the UJA, in recognition of the greatly expanded needs arising from the changing situation allotted to this agency $10,459,477, an amount exceeding the total expenditures of the JDC for the entire year 1943. Seventy per cent of this sum was expended for rescue and for the feeding and maintenance of destitute Jews in occupied territories or in allied and neutral countries having no local relief facilities.

In many instances, however, sums were allocated for cultural and religious purposes as well as for physical needs. Thus, between July 1, 1943 and June 30, 1944, a total of $331,200 was contributed to the support of schools, yeshivoth, hospitals, and old-age homes overseas.

To aid efforts on the part of many Americans to find relatives dislocated by the Nazis and the war, the JDC, jointly with the American Committee for Christian Refugees, HIAS, the International Migration Service, the National Council of Jewish Women, the National Refugee Service, and the American Friends Service Committee has established a Central Location Index. Names registered by individual applicants with these organizations are being cleared with the central body which enlisted the facilities of its member agencies, the International Red Cross, and other public and semi-public bodies.

HEBREW SHELTERING AND IMMIGRANT AID SOCIETY

One of the oldest agencies in the field of emigrant and immigrant aid, is the Hebrew Sheltering and Immigrant Aid Society (HIAS) which, at its annual convention in New York City on March 5, 1944, voted a budget of $1,500,000 to permit it and its European adjunct, the HIAS-ICA Emigration Association (HICEM) to carry on its task in accordance with the program of the War Refugee Board. Since the year 1944 saw the lowest ebb of Jewish emigration from Europe, its scope was greatly reduced. It did, however, contribute $70,000 toward the transportation of refugees from Spain and Portugal taken to Palestine on the *S.S. Nyassa;* cooperated with the JDC in sending food and clothing packages to refugees in the Soviet Union; established an office in Turkey to aid emigration of Jews from the Balkan countries; and continued its relief efforts in the neutral ports of Europe where Jewish refugees from the Continent are concentrated. HIAS also continued, on a reduced scale, the feeding and temporary sheltering of the small number of immigrants who entered the United States and initiated a Refugee Relatives Registration Program as part of the Central Location Index.

AMERICAN ORT FEDERATION

The American Ort Federation, an affiliate of the World Ort Union founded in Russia in 1880, pursued its program of "organization and rehabilitation through training." Reporting on its activities for 1944, Louis B. Boudin, chairman of the ORT board of directors, stated that the World ORT would require a total of $653,000 for the year 1944. The quota for the American ORT was $486,500, representing an increase of $141,000 of its budget for 1943. Its workshops and vocational schools in Switzerland, Spain, Portugal, in a number of the Latin American countries, in Canada and the United States are being maintained and work is being continued by local ORT committees in occupied countries with borrowed funds to be repaid by ORT Union at the end of the war. During the past year its activities in Switzerland included the opening of two new professional schools for the training of youth in Geneva, a new professional school for refugee girls near Basle, vegetable gardens for agricultural study near Geneva, a refugee camp in Sierre, and the maintenance of two other vocational training centers established by the government.

AMERICAN OSE COMMITTEE

The American OSE (organization for the protection of the health of Jews) Committee which, since the Nazi occupation of most European countries, has been serving as the Central Committee of the World Union OSE, has concentrated its activities upon giving physical aid to the Jewish population of Europe and organizing medical institutions in areas in need of Jewish health service. During 1943-1944 the American OSE Committee allocated $72,000 to its affiliates throughout the world. With these funds it has carried on its work from neutral Switzerland with the aid of the Swiss Union of Jewish Communities. It has regularly supplied medical and sanitary aid to the Jewish inmates of Swiss internment camps, has purchased and shipped medicines, vitamins, milk and other needed products to Jewish community councils in Cracow, Therezin, Belgrade, Bucharest, Zagreb, Czernowitz, Lyon, Marseilles, Montpellier, Limoges, and other European cities; has set up, wherever possible to reach the Jewish population, medical mobile units and first aid centers; has cared for some 6,500 Jewish children in southern France; and has opened new medical institutions, including a Jewish Nurses School and a policlinic in Buenos Aires and Montevideo and new branches in Palestine, Chile, and Panama.

ZIONISM

The year 1944 was a critical and fateful year for the Zionist movement in America. Perhaps the most important event was the movement for the abrogation of the British White Paper of 1939 which closed Palestine to Jewish immigration after March 31, 1943. While the American Zionist Emergency Council set about organizing some 200 local emergency committees throughout the American communities to get the backing of the public for the abrogation, pleas came from many groups, both non-Zionist and Zionist, all of whom considered the closing of this frontier a major calamity for European Jews. Memoranda were presented to British diplomatic representatives and resolutions submitted to our Government to use its good offices to bring about the unrestricted entry of Jews into Palestine.

Finally, public pressure brought about the introduction on Jan. 27, 1944 in the House of Representatives by James A. Wright (Pa.) and Ranulf Compton (Conn.) of a resolution advocating full opportunity for colonization and the ultimate reconstruction of Palestine as a "free and democratic Jewish commonwealth."

A similar resolution was introduced in the Senate on Feb. 1, by Senators Robert F. Wagner (N. Y.) and Robert A. Taft (Ohio). Public hearings of the Wright-Compton Resolution were held before the House Foreign Affairs Committee between Feb. 8 and 16, when passage was urged by Zionist leaders, many Congressmen of both parties, the C.I.O., A.F. of L., and a number of nationally known figures.

Opposition to the clause calling for the establishment of a Jewish commonwealth in Palestine came from the American Council for Judaism and from the American Jewish Committee. The latter organization, while supporting the provision calling for free Jewish immigration into Palestine (as it had done on Jan. 17, 1944 in a memorandum to Lord Halifax, Ambassador of Great Britain) and suggesting that the country be placed under an international trusteeship responsible to the United Nations for safeguarding the Jewish settlement in, and Jewish immigration into, Palestine, recommended the deferment of "the controversial question of the Jewish Commonwealth."

The viewpoint of the Arabs in the United States who were opposed to the resolution was presented by Philip K. Hitti, professor of Semitic literature at Princeton University, and by Fares S. Malouf, president of the Syrian and Lebanese-American Federation. Other notes of protest were submitted by the Egyptian Government to the U. S. Minister to Egypt and by the governments of Iraq, Saudi-Arabia, Syria, and the Lebanon.

In spite of the fact that 19 states had passed resolutions similar to the Wright-Compton resolution and that both Houses of Congress and the country's press was largely in favor of it, action was tabled for military reasons at the request of Secretary of War Stimson and of Chief of Staff General George C. Marshall.

The disappointment in Zionist quarters was somehow tempered by the knowledge that General Marshall had asked for the deferment and not the rejection of the resolution and that President Roosevelt had authorized Dr. Stephen S. Wise and Dr. Abba Hillel Silver to make a statement at the National Conference on Palestine in Washington, D. C. on March 9, which was regarded as the first official American expression explicitly disapproving the White Paper. This pronouncement read to the largest gathering of Christian leaders in religion, education, government, labor and industry in support of Zionist aims, said in part that "the American Government has never given its approval to the White Paper of 1939," and that "full justice will be done to those who seek a Jewish National Home, for which our Government and the American people have always had the deepest sympathy . . ."

Even after this temporary defeat of the resolution, however, efforts to bring about the scrapping of the British documents continued. Outstanding among them was a mass meeting held in Madison Square Garden, New York City on March 21, addressed among others, by Senators Wagner, Barkley, and Taft, and Matthew Woll and Dorothy Thompson, at which a resolution was adopted urging the passage of the Wright-Compton resolution "at the earliest moment consistent with the exigencies of the war effort"; and a petition presented to President Roosevelt on March 31, the eve of the ban, by 1,500 American university professors asking him to act in behalf of free entry of Jews into Palestine.

THE PALESTINE QUESTION

The issue was again raised when, for the first time in American history, Palestine was included in the political platforms of both major parties of the United States. The Republican Party, at its convention in Chicago on June 27, asked that Palestine be constituted as a "free and democratic commonwealth" and condemned the President for failing to insist that the mandatory of Palestine carry out the provision of the Balfour Declaration and of the mandate while he pretends to support them." In contrast, the plank adopted three weeks later on the Democratic Party platform closely followed the wording of the Wright-Compton resolution by calling for the "opening of Palestine to unrestricted Jewish immigration and colonization, and such a policy as to result in the establishment there of a free and democratic Jewish commonwealth."

Later, too, the activities of the Zionists were concentrated on Congressional action with regard to Palestine. Agudas Israel, the Mizrachi Organization of America, and other agencies passed resolutions rejecting any plan for the "division of Palestine and changing her traditional frontiers," and asking for the use of unclaimed funds belonging to Jews for the resettlement of destitute Jews in Palestine. At the 47th annual convention of the Zionist Organization of America, held in Atlantic City, Oct. 14-17, President Roosevelt again pledged his aid in initiating "appropriate ways and means of effectuating . . . the establishment of Palestine as a free and democratic Jewish commonwealth." The membership adopted resolutions urging the early adoption of the Palestine resolutions; the establishment of a Jewish commonwealth embracing "the whole of Palestine, undivided and undiminished"; the "transfer of the maximum number of Jewish settlers to Palestine"; and granting to the Zionist movement "voice and status" in discussions of the Palestine question by international bodies. The ZOA convention, like the Zionist Emergency Council and many other groups, also made a statement strongly condemning recent outbreaks by Jewish terrorist groups in Palestine.

In Chicago Nov. 18-19, the National Conference for Palestine, convoked by the United Palestine Appeal, adopted an eight-point program for unrestricted Jewish immigration to Palestine and "recognition" of the Jewish commonwealth. The United States Government was asked to make available the necessary shipping to transport to Palestine Jews now able to emigrate from Europe. At this meeting, too, the Palestine terrorists and the assassination of Lord Moyne, British Resident Minister in the Middle East, were condemned.

Zionist activities, both here and in Palestine, have been given generous support by American Jews. According to a statement released early in the fall of 1944 by the chairman of the President's War Relief Control Board, they have contributed about $12,000,000 to Palestine since the beginning of the war. The United Palestine Appeal, a constituent agency of the United Jewish Appeal and the joint fund-raising agency of the Palestine Foundation Fund (Keren Hayesod), the Jewish National Fund (Keren Kayemeth), and the Mizrachi Palestine Fund, during the six months from Oct. 1, 1943 to April 1944, disbursed $9,629,000 for refugee settlement, agricultural and industrial development and war mobilization in Palestine, a sum exceeding by about $3,500,000 the disbursement for the same period the year before.

RELIGIOUS ACTIVITIES

According to the last Census of Religious Bodies (1936), there are 3,728 Jewish congregations in the United States, divided among Orthodox, Reform, and Conservative groups.

The outstanding event for orthodox Jewry was the extraordinary national Conference of Orthodox Jewry for Palestine and rescue, meeting in New York Jan. 30-31, 1944, which asked for the abrogation of the White Paper and the establishment of a Jewish Commonwealth, and expressed its gratitude to President Roosevelt for organizing the War Refugee Board. A discussion of the same problems dominated the fifth annual convention of the Agudas Israel in June, at which delegates called upon Jewish organizations in this country to unite in action for the rescue of Europe's Jews and for representation of organized orthodox Jewry on some kind of international body which would allow homeless Jews to enter and live in Palestine "in equality with all other inhabitants." The Union of Orthodox Jewish Congregations issued a new series of pamphlets for synagogues and military camps on the principles and practices of orthodoxy and continued its extensive program of supervising the preparation of foods to comply fully with Jewish dietary laws.

The Rabbinical Assembly of America, organization of conservative Jews, at its 44th annual convention in June focussed its attention on the topic, "Spiritual Leadership in Tomorrow's World." It also discussed "Religion in the Fox-Holes," the spiritual needs of soldiers in combat, with many chaplains participating. One of the resolutions adopted at the meeting demanded the establishment of a Jewish commonwealth in Palestine. The Jewish Theological Seminary announced in January that it had expanded its interfaith academic program by extending its Institute of Religious Studies to Chicago, where seminars on the subject are now being conducted.

REFORM CONTROVERSIES AND ACTIVITIES

Several controversies existed among Reform Jews. Divided opinion on the subject of Zionism, precipitated by the anti-Zionist stand of the American Council for Judaism, was somewhat mollified by a compromise, completely satisfactory neither to the Zionists nor the anti-Zionists. At an executive board meeting of the Union of American Hebrew Congregations, on Jan. 18, 1944, a statement was adopted to the effect that "the Union recognizes the right of each individual to determine his own attitude on this controversial question."

However, the issue was not entirely closed, for a storm of protest was caused by the adoption in November 1943 of a set of "basic principles" by Congregation Beth Israel of Houston, Texas, which among other points, included a rejection of the "nationalist conception of Judaism." New members of the congregation who refused to subscribe to these tenets were to be considered associate members, with no voting rights. This action was repudiated by the Central Conference of American Rabbis and the Union of American Hebrew Congregations, both representative of Reform Jews.

Other activities of reform Jewry included the establishment in Chicago of a Federation of Reform Synagogues, comprising 13 congregations; the institution of a pension plan for rabbis; the inauguration of the American Institute for Jewish Studies to promote Jewish ideals and Jewish studies among adult and young people; the publication of a variety of educational and informational pamphlets and books; and a message pleading for the cessation of race prejudice, especially against Negroes, published in connection with the observance of Race Relations Week during February.

SYNAGOGUE COUNCIL OF AMERICA

The establishment of an effective united religious representation in Jewish affairs continued to be the main interest of the Synagogue Council of America, established in 1926 to represent Orthodox, Conservative, and Reform lay and rabbinical organizations. While carrying on its work in cooperation with a variety of interdenominational groups, as well as its radio broadcasts, memorial meetings, etc., the Council's outstanding accomplishment was the convocation of a nationwide conference on religious education and the public school, in New York City, in March. Representatives of all types of Jewish organizations emphasized the traditional opposition of Jews to the introduction of religious education in the public schools and pointed to the more and more widely recognized disadvantages of the release-time plan and a general preference for dismissal-time plan as more democratic and effective.

WELFARE ACTIVITIES

Important work was done by the community to organize its welfare activities. Fund-raising and post-war planning were outlined by the 11th general assembly of the Council of Jewish Federations and Welfare Funds held in Pittsburgh, Feb. 4-7. This meeting also concerned itself with a 12-point program for immediate overseas relief and rehabilitation and adopted a resolution calling for the formation of a National Community Relations Advisory Council to formulate policy in the civic protective field. About three weeks later, at a three day conference, called by the National Jewish Welfare Board, the problem of reintegrating returning veterans into community life and a program of assistance for disabled Jewish war veterans was discussed by Jewish community leaders. The need for a revision of Jewish social welfare, of youth and educational programs to fit new requirements and for facilitating the orderly demobilization and reabsorption of returning service men into civilian life was discussed at a joint conference of the National Conference of Jewish Social Welfare, the National Association of Jewish Center Workers and the National Council for Jewish Education, in Cleveland in May.

INTER-GROUP RELATIONS

The activities of subversive groups have received new impetus because of the general feeling that the government would relax its vigilance in view of the favorable war news and also as a result of preparations for the Presidential campaign.

Many pro-fascist organizations, some newly established and others, under the guise of changed names, continued their propagandistic activities. Chicago was the center of a number of these groups, often with identical leadership, concentrating on the Presidential campaign. The largest and most active among them was the Citizens U. S. A. Committee, led by William J. Grace, which, before America's entry into the war, was called Citizens Keep America Out of War Committee. The National Revival Committee, an outright political organization, also was launched by Grace. It was an isolationist group which campaigned for the nomination of Robert C. McCormick, editor and publisher of the *Chicago Tribune* for president, and was supported by Gerald L. K. Smith and his America First Party, and by other anti-Semites, such as members of the We, the Mothers Mobilize for America. Weekly demonstrations were held in Chicago by the Constitutional Americans under the leadership of George T. Foster and Mary Leach, which scheduled Elizabeth Dilling as one of its speakers.

In Detroit, several groups, including the National Workers League, the United Sons of America, the Christocrats and the Michigan Patriots, a regrouping of former Ku Klux Klan elements, dominated the scene. The America First Party held rallies from St. Louis to Baltimore with the support of Coughlinites and isolationist congressmen.

Some of Father Charles E. Coughlin's former supporters, too, again became vocal. Father Edward Lodge Curran of Brooklyn, New York, made speeches in many cities of the East and Midwest and, in April, at a meeting sponsored by the American Citizens Committee in Brooklyn, launched a new organization, the National Committee for the Preservation of Americanism. His activities in favor of Father Coughlin and against the war were abruptly stopped when in June, Archbishop Edward Mooney, his superior, in what was interpreted as a public rebuke to Curran, denounced anti-Semitism as "directly opposed to Christian teaching" and strongly attacked professional anti-Semites.

Other organizations which entered the political scene were the American Democratic National Committee under the chairmanship of Harry H. Woodring, former secretary of war; the Gentile League in Watertown, Wis., characterized by Governor Goodland of Wisconsin as a group seeking "to foster racial prejudice and deprive the Jewish people of rights which are guaranteed to all persons under the state constitution," with the result that a suit was filed to revoke its charter; the Gentile Co-operative Association in Chicago, Illinois, a strongly anti-Jewish group to promote various "gentile objectives," including the compilation of a "gentile directory," etc. This group, like the America First Party and other organizations, established special bureaus for returning war veterans as part of their drive for adherents.

Anti-Semitic outbreaks in a number of cities in 1943, prompted official and communal bodies to organize more effective defence programs. Commissioner of Investigation William B. Herlands, charged with the task of studying disturbances in New

York City, reported in January that there was no conspiracy or organized plan of violence and that "anti-Semitic propaganda and indoctrination" had inspired the acts of vandalism which had occurred. He felt that the police was guilty of "laxity and inaction" in some of the cases, and outlined a 12-point program for dealing with the problem; his suggestions were heartily approved by Jewish organizations and by liberals generally.

Meanwhile, Police Commissioner Lewis J. Valentine of New York had ordered an increase in detective patrols in areas where outbreaks had occurred, and Mayor Fiorello La Guardia announced a reward of $500 for information leading to the conviction for vandalism against any synagogue or church. The Mayor also appointed a committee composed of 19 leaders of all faiths to recommend methods of correcting racial and religious prejudice. In addition, amendments were adopted to regulations of the New York City Police Department barring members from participating in any organization advocating racial or religious discrimination.

LEGISLATION TO COMBAT ANTI-SEMITISM

Legislation to combat anti-Semitism was introduced in the New York State Legislature. On Jan. 13, a bill was brought before both Houses under bipartisan sponsorship making the publication of false material promoting hatred of any group because of race, creed, or color a misdemeanor. Three months later, the Legislature enacted a law making it a felony to do malicious injury to places of religious worship and instruction, or to cemeteries. In addition, the Governor on April 12, signed a bill creating a commission to study racial and religious discrimination in New York State and to recommend remedial legislation. Subsequently, all action on pending anti-discrimination bills was suspended to await the new commission's report at the legislative session in 1945.

Connected with efforts to end group prejudice was legislation for the establishment of a permanent Federal Fair Employment Practices Committee. Hearings on the subject were opened before the House Labor Committee on June 1, and before the Senate Education and Labor Committee, on Aug. 30. The bill was approved in the Senate sub-committee on Sept. 20. Meanwhile it was announced that the existing Fair Employment Practices Committee had, during the first half of 1944, made satisfactory adjustments in more than a third of all cases it had handled.

DOMESTIC DEFENSE ACTIVITIES

During the year, Jewish organizations extended their domestic defense activities. On Jan. 11, Joseph M. Proskauer, president of the American Jewish Committee, suggested a four-point pledge against intolerance and bigotry to be taken by every American, which was immediately endorsed by Archbishop Francis J. Spellman and by Bishop Henry St. George Tucker, president of the Federal Council of the Churches of Christ in America. An entirely new approach to the problem was later adopted by the Committee when it called 25 psychologists, sociologists, psychiatrists, and economists to a Conference on Research in the Field of Anti-Semitism, in New York City in May 1944, to discuss the problem of research in the field of anti-Semitism and suggest scientific methods of combating it. Earlier, in February, the American Jewish Congress had convoked a National Conference to Combat Anti-Semitism, in New York, at which all national political parties were urged to adopt planks at their conventions condemning fomentation of religious and racial prejudices.

At present, work of similar nature is being conducted on a nationwide scale by the newly established National Community Relations Advisory Council which formulates policy in the civic protective field by joint deliberations of representatives of national and local Jewish civic protective agencies. Its organizational meeting, held in New York March 18-20, was preparatory to initiating joint planning on major problems in connection with combating anti-Semitism. A month later, the organization, whose total membership is 17 community-relations councils and five national agencies, outlined a program for the clearance of all major projects undertaken by member agencies.

Non-sectarian organizations, too, lent their support to action counteracting bigotry. The National Federation for Constitutional Liberties, composed of civic, educational, labor, and church groups, at its meeting in January, 1944, urged concrete programs for putting an end to the spread of anti-Semitism and race hatred. The National Lawyers Guild offered to represent any person affected by any act of anti-Semitism. In March, the National Conference of Christians and Jews announced the establishment of a special committee, composed of Joseph M. Proskauer, former Governor Alfred E. Smith, and Will Hays, to combat racial propaganda during the Presidential election. Several months later, at a mass meeting in San Francisco sponsored by the National Committee Against Persecution of the Jews, Supreme Court Justice Murphy proposed a six-point program to combat race prejudice by self-discipline, government protection of the rights of all groups and individuals, and the realization of full economic security for all.

Innumerable other appeals for intergroup amity certainly contributed to counteracting poisonous propaganda spread by subversive groups. Important among them was the educational program, arranged by the National Conference of Christians and Jews, in connection with the observance of Race Relations Sunday on Feb. 13, 1944, and Brotherhood Week on Feb. 20-26; an address by Justice Murphy, at the interfaith unity session of B'nai B'rith's national war service convention in which he characterized anti-Semitism as "not only un-American, but anti-Christian" and called for united action among Christians to purge this country of anti-Semitism; a statement, submitted in June to the State Department by 140 Protestant, Catholic, and Jewish religious leaders, calling for the establishment of an International Office for Education which would, among other things, achieve through education understanding among nations, races, peoples, and cultures; a pronouncement, issued in Washington on Oct. 9 by the Baptist Church, voicing its opposition to religious persecution and intolerance "by any church or state on earth"; a resolution was adopted during the same month at the convention of the United Lutheran Church of America, condemning the manifestations of anti-Semitism and pledging aid in the preservation of the rights of Jews; and, finally, a message sent, in December, by President Roosevelt to the National Conference of Christians and Jews, calling on the American people to keep the country free of prejudice and bigotry.

PERIODICAL PUBLICATIONS

Advance (Congregational)
14 Beacon Street, Boston.
America (Jesuit)
329 W. 108th St., New York City.
American Hebrew
48 West 48th Street, New York City.
Catholic World
401 West 59th Street, New York City.
Christendom
297 Fourth Ave., New York City.
Christian Advocate
740 North Rush St., Chicago.
Christian Century
95 Madison Ave., New York City.
Christian Herald
419 Fourth Ave., New York City.
Christian Leader (Universalist)
16 Beacon Street, Boston.
Churchman, The (P.E.)
425 Fourth Ave., New York City.
Church Management
1900 Euclid Ave., Cleveland, O.

Commonweal, The (R.C.)
386 Fourth Ave., New York City.

Contemporary Jewish Record
386 Fourth Ave., New York City.

International Journal of Religious Education
203 N. Wabash Ave., Chicago.

Living Church (P.E.)
744 North Fourth Street, Milwaukee, Wis.

Presbyterian Tribune
Martin Bldg., Utica, New York.

Reconstructionist, The
15 West 86th Street, New York City.

Religious Digest
234 Pearl St., N.W., Grand Rapids, Mich.

Watchman-Examiner, The (Baptist)
23 East 26th Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

NATIONAL CHURCHES

American Baptist Historical Society, Chester, Pa.

American Unitarian Assn., 25 Beacon St., Boston, Mass.

Board of Direction of the General Synod of the Reformed Church in America, 156 Fifth Ave., New York City.

Christian Science Church Reading Room, 537 Fifth Ave., New York City.

Congregational Christian General Council, 287 Fourth Ave., New York City.

Freethinkers' of America, Inc., 370 W. 35th St., New York City.

Friends' General Conference of the Religious Society of Friends, 1515 Cherry St., Philadelphia, Pa.

General Conference of Seventh-Day Adventists, 6840 Eastern Ave., N.W., Takoma Park, Washington, D. C.

General Council of the Presbyterian Church in the U. S. A., 156 Fifth Ave., New York City.

Greek Orthodox Church, 10 E. 79th St., New York City.

National Lutheran Council in America, 231 Madison Ave., New York City.

National Spiritualist Assn., 600 Penn. Ave., S.E., Washington, D. C.

Northern Baptist Convention, 152 Madison Ave., New York City.

Protestant Episcopal Church, 281 Fourth Ave., New York City.

Society for Ethical Culture of New York, 2 W. 64th St., New York City.

Theosophical Society in America, Covina, Calif.

Union of American Hebrew Congregations, 32 W. 6th St., Cincinnati, Ohio.

Union of Orthodox Jewish Congregations of America, 305 Broadway, New York City.

United Lutheran Church in America, 231 Madison Ave., New York City.

United Synagogues of America, Broadway and 122nd St., New York City.

Universalist General Convention, Inc., 16 Beacon St., Boston, Mass.

Vedanta Society, 34 W. 71st St., New York City.

Volunteers of America, 34 W. 28th St., New York City.

INTERNATIONAL ORGANIZATIONS

Association for the Promotion of Christian Unity, Mission Bldg., Indianapolis, Ind.

Baptist World Alliance, Bates College, Lewiston, Me.

Central Bureau of Evangelical Churches in Europe, 297 Fourth Ave., New York City.

Committee on Friendly Relations Among Foreign Students, 347 Madison Ave., New York City.

Ecumenical Methodist Conference, 720 Omaha Bank Bldg., Omaha.
International Assn. of Daily Vacation Bible Schools, 297 Fourth Ave., New York City.
International Association for the Promotion of Liberal Christianity and Religious Freedom, 25 Beacon St., Boston, Mass.
International Congregational Council, 287 Fourth Ave., New York City.
International Council of Religious Education, 203 N. Wabash Ave., Chicago, Ill.
Lutheran World Convention, 231 Madison Ave., New York City.
Near East College Association, Inc., 50 West 50th St., New York City.
Religious Educational Association, 59 E. Van Buren St., Chicago, Ill.
Universal Christian Council on Life and Work, 297 Fourth Ave., New York City.
Western Section of Alliance of Reformed Churches Throughout the World Holding the Presbyterian System, 226 W. Mowry St., Chester, Pa.
World Conference for International Peace Through Religion, 70 Fifth Ave., New York City.
World Student Christian Federation, 347 Madison Ave., New York City.
World's Sunday School Assn., 156 Fifth Ave., New York City.

INTERCHURCH ORGANIZATIONS

American Bible Society, Park Ave. and 57th St., New York City.
American Sunday School Union, 1816 Chestnut St., Philadelphia, Pa.
American Tract Society, 21 W. 46th St., New York City.
Chaplain's Aid Assn., 10 E. 52nd St., New York City.
Church Peace Union, 70 Fifth Ave., New York City.
Community Church Workers of U. S. A., 77 W. Washington St., Chicago, Ill.
Conference of Theological Seminaries and Colleges in the U. S. A. and Canada, Gettysburg, Pa.
Epworth League of the Methodist Episcopal Church, 740 Rush St., Chicago, Ill.
Federal Council of the Churches of Christ in America, 297 Fourth Ave., New York City.
Fellowship of Christian Co-operation, 2929 Broadway, New York City.
Free Church of America, 25 Beacon St., Boston, Mass.
National Council of Protestant Episcopal Churches, 281 Fourth Ave., New York City.
National Religion and Labor Foundation, 106 Carmel St., New Haven, Conn.
Synagogue Council of America, 1133 Broadway, New York City.
United Christian Council for Democracy, 457 W. 123rd Street, New York City.

AUXILIARY ORGANIZATIONS

Catholic Church Extension Society of the U. S. A., 360 N. Michigan Ave., Chicago.
Catholic Guardian Society, 1 Park Ave., New York City.
Catholic Protective Society, 477 Madison Ave., New York City.
Church League for Industrial Democracy, 135 Liberty St., New York City.
Community Church Workers of the U. S. A., The, 1302 Chicago Temple, 77 W. Washington St., Chicago, Ill.
Laymen's Movement for a Christian World, 347 Madison Ave., New York City.
Lord's Day Alliance of the U. S., 156 Fifth Ave., New York City.
National Conference of Christians and Jews, 381 Fourth Ave., New York City.
Woman's Christian Temperance Union, 1730 Chicago Ave., Evanston, Ill.
Woman's National Sabbath Alliance, 156 Fifth Ave., New York City.
Young Men's Christian Assn., 420 Lexington Ave., New York City.
Young Men's Hebrew Assn., 145 E. 32 Street, New York City.

Young Woman's Christian Assn., 600 Lexington Ave., New York City.

Young Woman's Hebrew Assn., 145 East 32 Street, New York City.

RELIGIOUS PUBLICATIONS

American Baptist Historical Society, Upland Ave., Chester, Pa.

American Baptist Publication Society, 1701 Chestnut St., Philadelphia, Pa.

American Bible Society, Park Ave., & 57th St., New York City.

American Tract Society, 21 W. 46th St., New York City.

Chicago Tract Society, 343 S. Dearborn St., Chicago, Ill.

Gideons, 202 S. State St., Chicago, Ill.

National Testament and Tract League, 200 Kellog Bldg., Washington, D. C.

Pocket Testament League, The, 156 Fifth Ave., New York City.

Religious Educational Assn., 59 E. Van Buren St., Chicago, Ill.

Society for the Propagation of the Faith, 462 Madison Ave., New York City.

MISSIONARY

Agricultural Missions Inc., 156 Fifth Ave., New York City.

American Board of Commissioners for Foreign Missions, 14 Beacon St., Boston, Mass.

American McCall Assn., 122 E. 22 St., New York City.

American Mission to Lepers, Inc., 156 Fifth Ave., New York City.

Christian and Missionary Alliance, 260 W. 44th St., New York City.

Committee of Reference and Counsel, 156 Fifth Ave., New York City.

Council of Women for Home Missions, 297 Fourth Ave., New York City.

Home Missions Council of North America, 297 Fourth Ave., New York City.

International Missionary Council, 156 Fifth Ave., New York City.

Missionary Education Movement of the United States and Canada, 156 Fifth Ave., New York City.

National Council of Jewish Women, 1819 Broadway, New York City.

Near East Relief, 17 W. 46th St., New York City.

Student Volunteer Movement for Foreign Missions, Inc., 156 Fifth Ave., New York City.

Woman's Union Missionary Society, 45 Astor Place, New York City.

PART SIX

SCIENCE—APPLICATION AND PRINCIPLES

DIVISION XVIII

MATHEMATICS AND ASTRONOMY

MATHEMATICS

BY J. F. RITT*
PROFESSOR, COLUMBIA UNIVERSITY

ALGEBRAIC GEOMETRY

Important progress in the solution of one of the outstanding problems of algebraic geometry was made in 1944 by O. Zariski. The problem is that of showing that every algebraic variety is birationally equivalent to an algebraic variety without singularities. That this is true for curves is a classical result, and the result was known also for surfaces. Zariski proves it for the case of three dimensional varieties. His proof is purely algebraic and belongs to the domain of the arithmetic theory of algebraic geometry. Other significant contributions to this field were made by C. Chevalley. His work deals with ideal theory in certain commutative rings called local rings, and its main objective is the development of a theory of intersection multiplicities. The latter work is as yet unpublished.

NUMBER THEORY

Two important papers by C. L. Siegel were published during the year. The first of these deals with the extension of Hardy and Littlewood's work on Waring's problem to algebraic number fields. This had been done previously for quadratic fields. A second paper of Siegel's on discontinuous groups may be regarded as part of the theory of groups, but, because of its application to the integral elements of an algebra, it is mentioned here. In it Siegel proves that certain important groups of units in integral domains of algebras are finitely generated.

ABSTRACT ALGEBRA

The work done in the theory of algebras will first be noted. As in the past few years, a number of investigations of non-associative algebras have been made. Work which centers around A. A. Albert's concept of isotopy for general non-associative algebras was done by Albert and by R. H. Bruck. These authors have studied this concept and have applied other ideas, originally used in algebra theory, to the theory of non-associative groups. Chevalley has discussed a new concept in matrix theory which is to play an important role in a forthcoming theory of Lie algebras. A contribution to the theory of associative non-semi-simple algebras was made by C. Nesbitt and W. M. Scott. Related to this work is the application to the study of groups, by Hsio Fu-Tuan, of R. Brauer's and Nesbitt's theory of representations. Tuan's results are improvements of certain results previously obtained by Brauer, who initiated these studies. Investigations of general associative rings were made by R. Baer. One of these is concerned with the nil ideals of a ring and another considers rings that possess duals in a certain sense.

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* The author is indebted for valuable assistance to Professors N. Jacobson, P. A. Smith, A. Wald, and to Dr. A. D. Fialkow.

An extension of Galois' theory to non-normal fields was effected by N. Jacobson. The main concept in his theory is that of a representation of a field by matrices with elements in the field. For separable fields, as was previously known, the concept of a hyper-group (multigroup) plays an important role. A generalized Jordan-Hölder theorem which is applicable to a number of algebraic systems, including hyper-groups, has been proved by R. J. Duffin and R. S. Bate. Several interesting papers on infinite groups were published by R. Baer. One of these deals with the concept of crossed isomorphism which includes isomorphism and anti-isomorphism.

SEMI-GROUPS

Einar Hille of Yale University delivered Colloquium lectures on "Selected topics in the theory of semi-groups" during the summer meeting of the American Mathematical Society at Wellesley College. A semi-group is a set of objects with a binary associative operation under which the set is closed. Hille discussed (1) open additive semi-groups of complex numbers (including quasi-additive functions), (2) one-parameter semi-groups of linear bounded transformations on a Banach space to itself (continuity, analyticity, infinitesimal generator, relations to Laplace transforms and ergodic theory), and (3) representation of semi-groups embedded in a Banach algebra.

FUNCTIONS OF COMPLEX VARIABLES

R. P. Boas has presented a theorem on averages that generalizes the known theorem which states that a periodic integral function of exponential type is a finite trigonometric sum. G. Piranian has derived an extension of Ostrowski's theorem on overconvergence. S. Mandelbrojt has proved a general theorem on quasi-analyticity which can be used in connection with the analytic continuation of functions defined by Dirichlet series. W. T. Martin has studied the mappings effected by systems of functions of several variables. H. K. Hughes has investigated the asymptotic expansions of integral functions. S. Bergman and M. Schiffer have examined bounded functions of two complex variables. H. Kober has studied functions defined in sectors or strips in regard to their approximability by intêgral functions. M. Heins has derived new results related to the theorem of three circles.

DIFFERENTIAL EQUATIONS

N. Levinson has considered a non-linear differential equation of the second order which arises in mechanics and has proved that there is a periodic solution to which all solutions are asymptotic. J. Peirce has studied the branch points of solutions of systems of equations. W. M. Whyburn has treated linear systems with general boundary conditions. E. J. Wilkins has investigated the growth of solutions of linear equations.

METRIC GEOMETRY

Several papers published during 1944 in the *Transactions of the American Mathematical Society* add very considerably to our knowledge of the foundations of elementary and general metric geometry. R. Baer presents an axiomatic analysis of the following fundamental theorems of Euclidean geometry: each of the triplets of lineo-medians, altitudes, angle bisectors, perpendicular bisectors, associated with a triangle meet in a point. The axiomatic derivation of these theorems involves the properties of the affine plane and the relations of midpoint and orthogonality. No assumptions concerning order or betweenness properties are made. G. Birkhoff shows that n-dimensional Euclidean, spherical and hyperbolic geometry can be characterized by the following postulates: (1) space is metric; (2) through any two points a line segment can be drawn, locally uniquely; (3) any isometry between subsets of the space can be extended to a self-isometry of all space. The proof depends upon elementary arguments. From a different viewpoint, this same problem is also studied by H. Busemann, who strengthens the topological hypothesis while relaxing the mobility condition. Busemann's result is part of a larger investigation of the foundations for a general theory of Finsler spaces. The aim is to develop a purely geometric treatment without any differentiability assumptions. In two articles, L. A. Santalo generalizes various of the Blaschke school's results on plane integral geometry to apply to curves on a sphere or on a surface of constant negative curvature.

DIFFERENTIAL GEOMETRY

In an attempt to find a unified theory of the physical field by some extension of the relativistic theory of gravitation, A. Einstein and V. Bargmann obtain a generalization of Riemannian geometry. The geometric structure of the space is defined by means of a bivector. This bivector is a generalization of a tensor in which the various indices may refer either to points of different spaces or to different points of the same space. The algebraic relations among bivectors, and their properties which are based upon an affine connection, are discussed. Basing his work on the tensor apparatus of Riemannian geometry, A. Fialkow indicates a new approach to the study of conformal geometry. In a paper in the *Transactions of the American Mathematical Society*, he obtains the basic tensor conformal invariants of a subspace of a Riemann space and uses them to develop the conformal differential geometry of the subspace. E. Kasner and J. DeCicco continued their investigations of the geometric properties of generalized dynamical trajectories in three-dimensional space.

TOPOLOGY

The earliest proofs of the invariance of the Betti numbers were based on the systematic use of so-called singular cycles and singular homologies. By considering simplexes with ordered vertices, rather than oriented simplexes, S. Eilenberg brought new life to the singular theory. In recent years this theory had been giving way to the algebraically more interesting spectral homology theories. Eilenberg's work suggests, however, that the two theories are equally useful, and equally attractive algebraically. In the theory of continuous deformations, R. H. Fox introduced a number of concepts and perfected the definition of fibre space. N. E. Steenrod obtained the classification of all sphere bundles for which the base space is a sphere of not more than six dimensions.

The fundamental problem concerning topological transformation groups —namely, that of determining whether every continuous group of continuous transformations operating in a locally Euclidean space is topologically equivalent to an analytic group of analytic transformations, remains unsolved. D. Montgomery, however, has obtained an affirmative answer under the hypothesis that the transformations are analytic and the group compact. In connection with transformation groups of finite orders, P. A. Smith extended the theory of special homologies—hitherto associated only with cyclic groups—to certain non-cyclic cases. In the theory of differentiable manifolds, H. Whitney studied systematically the reduction of the singularities which occur when an n-dimensional manifold is imbedded in a Euclidean space of 2n or 2n—1 dimensions.

STATISTICS

In the theory of testing statistical hypotheses, it is usually assumed that the size of the sample (number of observations on which the test is based) is a constant determined in advance. However, a considerable gain in efficiency can be achieved by making the sample size dependent on the outcome of the observations. For the special case of a binomial distribution, W. Bartky devised such a test procedure. The significance of Bartky's result lies in the fact that the expected number of observations required by his test procedure is considerably smaller than the fixed number of observations needed for the most powerful previously known test, and at the same time the probability of making a wrong decision (accepting the hypothesis when it is false, or rejecting the hypothesis when it is true) is not larger for Bartky's procedure than for previous tests.

An interesting contribution to the theory of non-parametric tests has been made by H. Scheffé. We speak of a non-parametric test if the hypothesis to be tested is the statement that the true distribution function is an element of a class of distribution functions which can not be described by a finite number of parameters. An important problem is that of characterizing the system of critical regions for which the probability of rejecting the hypothesis to be tested has the same value for all distribution functions in the class under consideration. One of Scheffé's main results is that if the class of distribution functions is the class of all absolutely continuous univariate distribution functions, a necessary and sufficient condition, that a critical region should have the desired property is given as follows: there exists a positive integer k such that for any point of the sample space, except perhaps on a set of measure zero, there are exactly k points in the critical region which can be obtained from the given sample point by permuting the coordinates.

A notable contribution to the theory of methods of sampling was made by W. and L. Madow. They studied the relative merits of a systematic sample, drawn from an ordered set of elements, as compared with a random sample. In systematic sampling only the first element is chosen at random, all other elements selected being determined by the first. The main result obtained is: if the serial correlations have a positive (negative) sum, systematic sampling is worse (better) than random sampling.

Several outstanding problems in the theory of runs up and down were solved by J. Wolfowitz. In a sequence of observations, a run up (down) is a sub-sequence of positive (negative) signs of differences of the observations which can not be extended in either direction. Runs up and down play an important role in quality control and are employed in the study of economic time series. Wolfowitz proved the limiting normality, under the hypothesis of randomness, of the distribution of runs of various lengths and of a large class of general linear functions of runs of all lengths. Long runs are shown to have, in the limit, the Poisson distribution.

ASTRONOMY

By Rupert Wildt
Assistant Professor, University of Virginia

AMERICAN ASTRONOMICAL SOCIETY

The American Astronomical Society held its 72nd meeting on the premises of the American Philosophical Society at Philadelphia, Pa., on June 28, 1944. While the number of papers presented was smaller than usual, reflecting the engagement of numerous astronomers upon various projects connected with the war effort, the attendance was unexpectedly large. Nevertheless, it was agreed not to hold the customary second annual meeting, in view of prevailing war conditions. The Society decided to discontinue issuing its Publications, and the reports on the meetings held and abstracts of papers read will henceforth appear in the *Astronomical Journal,* ownership of which was recently acquired by the Society. The *Astronomical Journal,* which beginning with its 51st volume in 1944 was given a new streamlined format, was founded in 1849 by Benjamin Apthorp Gould, and is now being issued from the Yale University Observatory.

PERSONAL HONORS AND AWARDS

Dr. Harlow Shapley, president of the American Astronomical Society and director of the Harvard Observatory, was decorated by the Mexican Government with the Order of the Aztec Eagle, Third Class, in recognition of his efforts to advance scientific cooperation between the United States and Mexico, and for his aiding the National Astrophysical Observatory at Tonanzintla in securing one of the best modern-type telescopes and other equipment.

Dr. Otto Struve, director of the Yerkes Observatory of the University of Chicago and of the McDonald Observatory of the University of Texas, was awarded the Gold Medal for 1944 of the Royal Astronomical Society. It is worth noting that the medallist is the fourth member of the distinguished Struve family to receive the coveted award.

Dr. S. Chandrasekhar, on the staff of the Yerkes Observatory, was elected a Fellow of the Royal Society.

Miss Antonia C. Maury was the recipient of the Annie J. Cannon Medal of the American Astronomical Society, in recognition of her important contributions to the field of spectral classification.

SCOPE OF 1944 DEVELOPMENTS

In perusing the following paragraphs describing various phases of astronomical research during 1944, the general reader is asked to keep in mind that the bulk of scientific activities is of such a technical nature as to forbid sketching even its significance in a few lines. Moreover, in astronomy particularly there are many research projects that have to be carried for year after year, even into decades, before they begin to bear fruit. The subjects selected here for report should, therefore, not be regarded as truly representative of the principal trends of current astronomical studies. They are rather items that had "news value" among the professionals during 1944.

TOTAL SOLAR ECLIPSE

The expected minimum of the 11-year sun-spot cycle had definitely been passed by the middle of the year. The reversal of the magnetic polarity of the spots in passing from the old to the new cycle occurred as expected. The total solar eclipse of Jan. 25, 1944, was observed at Chicalyo, Peru, by a Mexican expedition led by Dr. Joaquin Gallo. Astronomers from the United States were prevented from studying this eclipse by the war conditions. An annular eclipse of the sun occurred on July 20, visible as a central eclipse in eastern Africa at sunrise, in India near noon, and in the East Indies in the afternoon. This eclipse was observed from an airplane at high altitude over Africa by a British amateur astronomer, a member of the Royal Air Force.

NEW TELESCOPIC COMETS

In 1944, the discovery of three new telescopic comets was announced within a fortnight. A short ephemeris of the first comet, found by Väisälä in Finland, arrived at Harvard on May 20, but a search for this object, undertaken by G. Herbig at the Lick Observatory in the first half of June, was without success. In August this comet was really confirmed by photographs taken with the Crossley reflector of the Lick Observatory. On May 25, Dr. Paraskevopoulos telegraphed from the Boyden Station of the Harvard Observatory, at Bloemfontein, South Africa, that D. du Toit had discovered a 10th-magnitude comet in the Southern constellation of Pavo. During the later half of the year 1944, Comet du Toit became visible from our latitude. A cable from Dr. van den Bos of the Union Observatory at Johannesburg, South Africa, announced the discovery, by Dr. H. van Gent, on May 23 of a 12th-magnitude comet in the Southern constellation of Vela. Finally, on Sept. 14 a fourth comet was discovered in the Southern sky by D. C. Berry at Wellington, New Zealand; at that time the comet was already of the 5th-magnitude and had a tail 1° long. Of older cometary objects, Comet Oterma (1943 a) and Comet Schaumasse (1911 VII) faded away during 1944.

GRAVITATIONAL THEORY OF THE SOLAR SYSTEM

At the U. S. Naval Observatory, G. B. Clemence has brought to a successful conclusion an ambitious project bearing upon the general gravitational theory of the solar system. He discussed 10,400 meridian observations of the planet Mercury, covering the period from the year 1765 until 1937. The results were combined with those from a recent discussion, by K. P. Williams at the University of Indiana, of the transits of Mercury from 1723 to 1927, slightly revised by addition of the transit of 1940. In work of this type, it was formerly assumed that the Earth's rate of rotation, *viz.* the length of the day, was invariable, and this led to discrepancies between the observed positions and those predicted on the theory of gravitation. As early as 1875 it had been suggested that these discrepancies might be owing to changes in the length of the day, but the possibility that some point in the theory had been overlooked could not be ruled out at that stage. With the perfection of the gravitational theory of the Moon's motion, the life work of the late Prof. E. W. Brown, at Yale, and with collateral investigations of the motions of the Sun and the planets, it has now been generally recognized that the Earth's rotation is variable. In particular, Professor Brown accepted the fluctuation of time defined by the observed deviation of the Moon from his gravitational theory. Taking into account the fluctuation of the length of the day, Clemence finds that the residuals between the observations of Mercury and the theory are very small indeed. The motion of Mercury's perihelion is found to be 42.″84 in excess of the Newtonian theory of gravitation, with a probable error of about ±0.″70 owing to uncertainties in the observations and in the masses of the other planets. The general theory of relativity, which predicts 42.″91 for this excess, is thus strongly confirmed. Confirmation is also found for the relativity effect in the motion of the Earth's perihelion of 3.″4 rather than the empirical 10.″45 used by Newcomb.

STUDIES OF PLANET SATELLITES

Physical observations of the satellites of the planets are notoriously difficult, owing to their faintness, and little has been known as to the constitution of these bodies. From determinations of their brightness and comparison with the computed illumination produced by the sunlight on surfaces of different degrees of reflectivity, it had been concluded that all the satellites are dark bodies, probably having surfaces consisting of bare rock, as the Moon is known to have. Moreover, gravitational theory predicted that none of these small bodies has had pull enough to retain an atmosphere, against the dissipative force of the heat motion of gas molecules, during the early stages of cooling and condensation of the satellite from a hot gaseous matrix. It comes as a distinct surprise, therefore, that G. P. Kuiper discovered the spectrum of Titan, the largest satellite of Saturn, to show the characteristic absorption bands of methane, as gas that is abundant in the atmospheres of all the major planets. This suggests that the atmosphere of Titan was formed after the body had cooled off to its present surface temperature of about −150° centigrade, which is maintained by the radiation from the sun. For even a surface temperature like that of the Earth, at present, should have caused Titan's atmosphere to evaporate into space rapidly.

SPECULATION ON NOVA OUTBURSTS

A related subject of speculative cosmogony has been dealt with by D. B. McLaughlin, namely the effect of a nova upon a nearby planet. Suppose, our Sun should suddenly flare-up and emit about 100,000 times the amount of its normal radiation over a period of 10 days and then decline to its old brightness, what would happen to the surface of the Earth? Although the cause of nova outbursts is still unknown, some astronomers, on the basis of statistical investigations on the frequency of novae, have advocated the idea that such an outburst may be a normal phenomenon in the life course of any star. McLaughlin finds that for a typical nova outburst, of the intensity and duration as stated above, the heat radiation received would suffice to melt and evaporate a layer of rock about 10 miles deep all over the Earth. Evidently, the planet would come through the outburst very drastically altered superficially, but essentially intact as regards its total mass. It appears even probable that the continents and ocean basins would not suffer extensive changes of height and depth, respectively.

FAINT COMPANIONS

At the 82-inch reflector of the McDonald Observatory, van Biesbroeck discovered a star which is of lower luminosity than any one known so far. It is an 18-magnitude companion to BD + 4°4048 and has an absolute magnitude of +19. The companion shares the primary's annual motion of 1."45 in position angle 204°. The apparent magnitude is +18 and the parallax 0."170.

At the Sproul Observatory, too, the search for faint companions of nearby stars continues. Van de Kamp discovered that for the star Lalande 21185 and for Barnard's stars the pattern of deviations from uniform heliocentric motion can be represented by Keplerian motion, with semi-axis major of 0."054 and 0."060, respectively. A lower limit of 0.06 solar masses is derived for the mass of the companion in either system. Lower limits for the range in radial velocity should be 9 and 6 km/sec, visual separation at greatest elongation about 0."3 and 0."5. Thus, the five stars nearest to the Sun (α Centauri, Barnard's star, Wolf 359, Lalande 21185 and Sirius) are found to average two component stars, giving a strong indication of the great abundance of binary systems.

The discovery of another most remarkable binary has been announced by W. J. Luyten, at the University of Minnesota. It is located at R. A. = 9:32.9, D = —36:54(1900) and bears the designation LDS 275. The components have the photographic magnitudes 14.1 and 14.4, and the color indices +0.1 and —0.05, respectively. The annual proper motion of the system is 0."35 in position angle 299°. Hence, this appears to be a physical binary both of whose components are white dwarfs. The measurement of the parallax and orbital motion, at a suitably located southern observatory, holds out the greatest promise of an early determination of the mass of this unique pair.

STELLAR GALAXIES OF THE LOCAL GROUP

Recent photographs on red-sensitive plates, taken with the 100-inch Mt. Wilson reflector by W. Baade, have for the first time resolved into stars the two companions of the Andromeda nebula—Messier 32 and NGC 205—and the central region of the Andromeda nebula itself. The brightest stars in all three systems have the photographic magnitude 21.3 and the mean color index +1.3 magnitude. Since the revised distance modulus is m-M = 22.4, the absolute photographic magnitude of the brightest stars in these systems is M_{pg} = —1.1. The resolution into stars of these objects is in itself a conspicuous success in observational technique, the nature of which can not be described here in detail, but it assumes even greater significance for the interpretation of the results and their speculative extension, as given by Baade.

It has long been known (J. H. Oort, 1926) that in our own galaxy there exist two different kinds of stellar populations. Type I is represented by the stars in the neighborhood of sun, showing a characteristic distribution in the Hertzsprung-Russel diagram (plot of luminosity against spectral class), *i.e.* a clustering around two lines, the so-called main sequence and the giant branch. Type II is represented by the stars of the globular clusters, outlying members of our own galaxies, whose stellar population is characterized by the absence of ordinary B and O giants, and by a different course of the giant branch among the later spectral types, and finally by the presence of the short-period Cepheids in an area of the spectrum-luminosity diagram whose population is exceedingly thin among the stars of the solar neighborhood (so-called Hertzsprung-Russel "gap" in the population of Type I). Now, Baade urges, on the basis of an extensive discussion of all the members of our local group of galaxies (13 in number, including NGC 147 and NGC 185, recently identified as such by Baade), that early-type galaxies (classes E-Sa) have populations of pure Type II, but that both types co-exist, although differentiated by their spatial arrangement, in the intermediate and late-type galaxies.

In late-type spirals and in most of the irregular galaxies, the highly luminous stars of Type I are the most conspicuous feature. It would probably be wrong, however, to conclude that we are dealing with populations of pure Type I, because the occurrence of globular clusters in these late-type systems, for instance in the Magellanic Clouds, indicates that a population of Type II is present too. Altogether it seems that, whereas stellar populations of the second type may occur alone in a galaxy, those of Type I occur only in association with Type II. If this view should come to be generally adopted, it is likely to furnish an important clue for new cosmosgonic speculations.

COSMIC STATIC

Experiments on the measurement of electromagnetic energy at radio wave-lengths arriving from the sky have been conducted for a number of years at Wheaton, Ill. by G. Reber. New and improved equipment put into operation during 1943 made it possible to obtain considerably better data, which make a very impressive showing. The electromagnetic waves are captured by a sheet-metal concave mirror, of 31 feet diameter and 20 feet focal length, and concentrated at the focal point upon a pair of cone antennae. These convert the electromagnetic energy into alternating current, which is then amplified. The results of a survey undertaken at 160 megacycles per second (corresponding to a wave-length of 1.87 meters) are charted on a map of the sky in form of lines of constant intensity in terms of 10^{-22} watts/sq. cm./circular degree/megacycle band. The center of emission is located in the constellation of Sagittarius, *i.e.* in the general direction of the center of our galaxy. Minor maxima appear in Cygnus, Cassiopeia, Canis Major, and Puppis. Recent day-time observations reveal a strong emission (intensity 10 in the units given above) centered in the Sun. A few other objects, such as the Moon, the Pleiades, the Orion nebula, and the great spiral in Andromeda have been tested without conclusive results. Nothing is known as to the origin of this radiation. Continuation of these pioneering experiments is certain to be welcomed by the astronomers, who will gratefully seize upon this novel manifestation of radiative energy in the cosmic space.

THE COSMIC TIME SCALE

Until about a decade ago, a cosmic time-scale of the order 10^{13} years was widely regarded among astronomers to be the most probable value. The technical term "cosmic time-scale" is used to designate the period which is held necessary, for the present spatial arrangement of the universe to have developed according to the accepted laws of dynamics. In recent years, new evidence has favored a much shorter time scale. Taking into account the effects of dynamical friction, S. Chandrasekhar showed that the disintegration of the well-known Pleiades cluster will be far advanced 3.10^9 years hence. Since clusters of the Pleiades type are common features of our galactic systems, it may be surmised that 3.10^9 years represents a reasonable value for the time scale of our galaxy. Another argument in favor of a shorter time scale is based on the statistics of double stars. Chandrasekhar computed that, for conditions like those prevailing in the neighborhood of the Sun, the time of dissolution of a binary system is of the order $2.2 \cdot 10^{15}/a^{3/2}$ years, where a is the semi-major axis of the system in astronomical units. According to the researches of the Russian astronomer Ambarzumian, the observed frequency of binaries with separations of 1,000 to 10,000 astronomical units is much less than is to be expected from equilibrium conditions. Hence, Chandrasekhar concluded, there has not been time enough to build up equilibrium conditions, which implies that 10^{10} years represents an upper limit to the age of our galaxy. In addition, there is the geochemical evidence for a short time-scale for the Earth and the meteorites, from the relative abundance of radio active elements and their disintegration products in rocks and meteorite specimens, and the evidence from the red-shift of the extra-galactic nebulae. Moreover, Mrs. Tuberg-Thomas, a student of Chandrasekhar, showed that the theory of dynamical friction, when applied to the Coma and Virgo clusters of extra-galactic nebulae, leads to a mean life for these objects of the order of $10''$ years. This is, perhaps, a further argument in favor of the short time scale.

PERIODICAL PUBLICATIONS

American Journal of Mathematics
Johns Hopkins Press, Baltimore.
American Mathematical Monthly
Illinois Institute of Technology, Chicago, Ill.
Annals of Mathematics
Princeton University Press, Princeton, N. J.
Astronomical Journal
Yale University Observatory, New Haven, Conn.
Astrophysical Journal
5750 Ellis Ave., Chicago.
Bulletin of the American Mathematical Society
531 West 116th Street, New York City.
Duke Mathematical Journal
Duke University Press, Durham, N. C.
Journal of Mathematics and Physics
Massachusetts Institute of Technology, Cambridge, Mass.
Popular Astronomy
Carleton College, Northfield, Minn.
Publications of the Astronomical Society of the Pacific
129 Twenty-fourth Ave., San Francisco, Calif.
School Science and Mathematics
3319 N. 14th St., Milwaukee, Wis.
Sky and Telescope
Harvard College Observatory, Cambridge, Mass.
Transactions of the American Mathematical Society
531 West 116th Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASTRONOMICAL SOCIETY, Dearborn Observatory, Evanston, Ill.

AMERICAN MATHEMATICAL SOCIETY, 531 W. 116th St., New York City.

MATHEMATICAL ASSN. OF AMERICA, Cornell University, Ithaca, New York.

NATIONAL ACADEMY OF SCIENCES, 2101 Constitution Ave., Washington, D. C.

DIVISION XIX

ENGINEERING AND CONSTRUCTION

STRUCTURAL ENGINEERING

BY WILLIAM A. OLIVER
ASSOCIATE PROFESSOR, UNIVERSITY OF ILLINOIS

GENERAL

Approximately $3,840,000,000 was invested in civil engineering construction in the United States during 1944, about 49.7 per cent of what it was for 1943. This percentage does not hold for the relationship which exists between the construction volumes for the same two periods. The actual volume of construction completed in 1944 would be somewhat less than 50 per cent of that completed in 1943 since construction costs have been continually increasing. Of the total money spent in 1944, about 61 per cent was for public and 39 per cent for private work. For 1943, 79 per cent was used for public and 21 per cent for private work. While the percentage of private work increased in 1944 the actual total was only about 94 per cent of what it was in the preceding year. These figures based on War Production Board estimates serve to substantiate the statement which has been frequently made that the greater part of the tremendous volume of necessary war construction was completed in 1942 and 1943.

Privately financed construction is lagging for several reasons. First, there are still serious government restrictions on the use of construction materials although there are apparently increasing amounts of such material available for private work. Second, since the major part of the industry's effort during the past years has been directed toward war construction there has been developed a certain inertia toward private work which must be overcome before the speed of that class of work can be accelerated. Furthermore, since a large part of private construction is made up of industrial and commercial buildings, progress in this important part of the construction industry will have to wait for the reconversion of business back to peacetime efforts after the war is over.

APPRAISAL OF STRUCTURAL ENGINEERING IN WAR

During the pause which has occurred in the construction industry, structural and construction engineers are taking stock of what has been in their field to meet the demands of the war emergency. In other words, a time for appraisal is at hand. During a war, little consideration can be given to economy. Speed of construction and conservation of critical materials must be the essence of every contract. In order to accomplish these ends, normal practices become less and less conservative. As an example of this the War Production Board (WPB) issued mandatory National Emergency Specifications covering all construction materials to be used on war projects. In general, these WPB specifications required the use of higher working stresses for the material than were

The author wishes to make acknowledgment to the following sources for factual material presented—*Engineering News-Record*, U. S. Bureau of Reclamation, Chief of Engineers, U. S. Army, Tennessee Valley Authority, and various technical associations.

commonly being used in structural design before the war. One way of justifying this procedure was on the basis of temporary construction built to last only during the war period. The question now arises, will these higher working stresses be justified when considered in connection with the long-time economy of peace conditions? Other questions of a similar nature must be considered.

During a war in the construction industry as well as in other industrial fields the press of circumstances forces the engineer to develop new methods to meet a given situation. Because of lack of time, no considered judgment or criticism can be given to these new developments as would be the case in time of peace. So in this matter of new developments in construction, structural engineers are beginning to ask themselves a second question—which of these new methods, if justified at all, are only temporary in usefulness and which can be accepted as permanent? This sifting process is already underway and will continue for some time after the war is over.

DEVELOPMENTS IN CONCRETE

In all of the three major construction materials—concrete, steel, and timber—many important and interesting developments have taken place.

The development in concrete, which has created the greatest amount of discussion among engineers during the past year, has been the use of an air-entraining agent as an admixture to concrete primarily to increase its durability. Research engineers have been working on the problem for a number of years but the results have been brought to fruition during 1944. The air-entraining agent (animal fat, vegetable oil, or resin in minute quantities) combines with the alkali contained in the cement to form a soap when the water is added at the mixer. During the mixing period, the air in the concrete whips the soap into billions of tiny bubbles which, according to theory, act as cushions to keep the sand (fine aggregate) and crushed rock (coarse aggregate) from moving about while the concrete is being placed in the forms and thus prevents the segregation of these aggregates. This prevention of segregation increases the durability. It has been stated that this increase in durability can be accomplished without material loss of strength.

Cement production is an index of the volume of concrete construction and during the first ten months of 1944 material shipment statistics show a movement of 82,259 barrels of cement, 27.5 per cent less than the amount moved during the same period in 1943.

STEEL FABRICATION AND CONSTRUCTION

In steel fabrication and construction, important advances have also been made, particularly in welding. In the manufacture of steel the effort has been toward the production of more weldable structural steels. In the construction industry, welding and production technics have been developed which undoubtedly will influence post-war welding practices. These developments have taken place principally in the ship and barge building industry where a large part of the products of the rolling mill and fabricating shops have been used during the war years. However, mention should be made of the industry's notable war achievements in the building of factories, military bridges, and other specialized structures as well as in the building of ships and barges.

The tonnage of fabricated structural steel for the first ten months of 1944 has been reported as 437,511 tons, a decrease of 41.6 per cent below the tonnage for the same period in 1943.

WOOD DEVELOPMENTS

During 1944, wood has been one of the most critical if not the most critical of all of the war materials. This condition has not been due to a shortage of standing timber but to shortages of labor and equipment necessary to get the timber out of the forest. Of the 33,800,000,000 board feet produced, about 47 per cent was used for crating war supplies for overseas shipment—a significant fact. This quantity is approximately 90 per cent of 37,700,000,000 board feet produced in 1943. When compared with the approximately 23,000,000,000 board feet of lumber manufactured annually in the years immediately preceding the war, these figures serve to indicate the importance of the position that lumber has assumed since the war began. This is particularly true in the construction industry where the scarcity of both structural and reinforcing steel for ordinary construction purposes has forced the use of timber for structures where reinforced concrete or structural steel would ordinarily have been used.

This increased use of lumber has resulted in the development of new methods of construction and has extended and improved many of the older ones. These improvements have been made primarily in the means to fasten the structure together. The use of metal connectors in joints has multiplied many times, and the technic of their application in fabrication has been improved. The use of glued structural members has increased, and the glues themselves have been improved in quality. Important advances have been made in both the manufacture and use of structural plywood. While the developments which have taken place will have to be carefully scrutinized to determine their usefulness for permanent peacetime building, they will all influence future construction and design methods.

DAMS AND RELATED WORKS

General.—In a review of progress in flood control, irrigation, navigation, and power development for 1944, President Roosevelt's proposal to establish a Missouri Valley Authority should be included. This would be patterned after the Tennessee Valley Authority established in 1933. Plans call for an initial $200,000,000 post-war construction program as a part of a much larger long time program for the entire Missouri River basin. Preliminary investigations have been made through the cooperation of the Bureau of Reclamation and the Corps of Engineers. Bills embodying the proposal are now before Congress.

As far as actual construction during the past year is concerned, the War Production Board has allowed only those projects to go forward which had to do with war food, war power, or emergency work programs. The U. S. Bureau of Reclamation, the U. S. Corps of Engineers, and the Tennessee Valley Authority have all been engaged in the construction of dams which would serve any or all of these purposes. Progress reports have been made regarding some of these projects in previous issues of THE AMERICAN YEAR BOOK.

With a program curtailed by labor shortages and restrictions regarding the use of certain critical materials, the Bureau of Reclamation maintained construction activities on 13 major projects. A resumé of progress on the nine projects which are of primary construction interest follows.

Altus Project, Oklahoma.—Work was resumed on the Altus Dam, a granite-faced concrete, gravity type of structure which had been halted about 20 feet short of its full 95-foot height. The reservoir system, which includes the dam, several dikes, and highway and railroad relocations, is 75 per cent completed. Construction of the 4.2 miles of the main canal was started and the most important structure of this portion, a 2200-foot concrete siphon, 10 feet 3 inches in diameter, across the treacherous North Fork of the Red River is now under construction. This project will bring 40,000 acres of dry-farmed land into crop production.

Boise Project, Idaho, Anderson Ranch Dam.—The earth dam is about 38 per cent completed, with the placing of about 3,395,000 cubic yards of material to date, bringing the dam about 130 feet above the lowest point of excavation. Plans anticipate the storage of 45,000 acre-feet of water in 1945 if the available supply of men is sufficient.

Central Valley Project, California.—Shasta Dam and reservoir system are about 92 per cent completed. The

Shasta power plant structure and penstocks were completed to the stage which permitted two of the five main 60,000 kilowatt (75,000 kv-a) generating units and two 2500 kv-a station service units to be placed in service in June 1944. Construction on the Keswick Dam was practically completed except for some necessary work in connection with spillway gates and power house which must await further WPB approval. Work resumed on the Friant Dam to make possible the storage of irrigation water during 1945 sufficient for the lands served by the Medera Canal. The Medera Canal, 37 miles in length, has been fully contracted for, is about 85 per cent completed, and it is expected that delivery of its 1,000 cubic feet per second of water will start with the 1945 irrigation season.

Colorado-Big Thompson Project, Colorado.—The WPB gave approval for continuation of the work on this project as a part of the war food program. Work on the Shadow Mountain Dam and reservoir and the channel connecting it to Grand Lake is well under way. The purpose of this project is to deliver 90,000 acre-feet of water from the western slope of the Continental Divide to the eastern slope for irrigation purposes.

Deschutes Project, Oregon.—Approved as a part of the war food production program, this project was continued during 1944. Progress was made on the Wickiup Dam and reservoir. Completion for partial operation is expected during 1945.

Fort Peck Power Project, Montana.—Two transmission lines are under construction on this project which was created to deliver power from the U. S. Army's Fort Peck Power Plant to irrigation districts. The main 115-kv line is 140 miles long from Fort Peck to the Glendive Sub-station on the Buffalo Rapids project.

Provo River Project, Utah.—Continuation of construction of the aqueduct division of this project was approved by the WPB because of the necessity for municipal water in the Salt Lake area. The Salt Lake aqueduct ultimately will carry municipal and irrigation water from Deer Creek Reservoir (completed in 1941) on the Provo River to Salt Lake City, a distance of 41 miles. The aqueduct consists of a 69-inch precast-concrete and steel pipe conduit and two principal tunnels, the Olmstead tunnel which is about 0.7 miles long, and the Alpine-Draper tunnel which is about 2.85 miles long. At the end of 1944, the status of construction of the aqueduct was tunnels entirely completed and conduit completed and under construction 31 per cent, or about 38 per cent of the total aqueduct completed.

Tucumcori Project, New Mexico.—Construction was resumed on this project in order to bring irrigated lands into crop production. The Conchas Dam, for flood control and irrigation, built by the U. S. Corps of Engineers, stores water on the South Canadian River for use on the Tucumcori Project. The first 22 miles of the main canal, which includes three tunnels, had been completed prior to suspension of construction in December, 1942. Work has now been resumed on the main canal which requires the construction of two more tunnels, 11½ feet in diameter, and 12 concrete siphons. One tunnel, 7,026 feet long, is about 40 per cent excavated; the other, 3,138 feet long was contracted for in December. It is estimated that 17,000 of the ultimate 45,000 acres of land can be served in 1945 by the construction of this portion of the canal and necessary laterals.

Yakima Project, Washington, Roza Division.—Construction on this project developed for irrigation purposes has been continued as a part of the war food program. When construction was halted, about 50 miles of the 95-mile canal had been completed. The next 34 miles of canal and structures are under construction and it is estimated that 32,000 acres of highly productive land will be placed under irrigation by 1945, in addition to the 15,000 acres already served. Ultimately, the Roza Division will serve 72,000 acres by gravity and 25,000 acres by pumping.

TVA DAM PROJECTS

General.—During 1944, the Tennessee Valley Authority devoted its energies toward the completion of projects which would further the war program as has been the case during all of the war years. Construction activities were marked by the closure of Kentucky Dam on Aug. 30 and of Fontana Dam on Nov. 7, thereby adding 5,138,000 acre-feet of controlled storage volume to the system of reservoirs in the valley and bringing the total to 13,464,000 acre-feet. During the calendar year, 186,000 kilowatts were added to the system's capacity by the completion of six hydro-electric generating units, including the second unit at Douglas Dam, the second at Fort Loudoun Dam, the fourth and fifth at Watts Bar Dam, and the first and second at Kentucky Dam. Upon the completion of a small amount of channel work at Kentucky Dam there will be available a year-round navigation channel for vessels of a 9-foot draft extending from the Ohio River at Paducah for 650 miles up the Tennessee River to Knoxville.

Kentucky Dam Project.—Started in 1939, Kentucky Dam is the longest of 15 dams built by TVA. It is one and one half miles long, has a maximum height of 166 feet, and it is the primary structure of the Tennessee Valley Authority's largest flood control project. When full flood surcharge can be retained, the 184-mile reservoir will be able to store 4,100,000 acre-feet of water which is enough to lower flood crests at Cairo, Ill. by about two feet. The construction of the dam required the excavation of nearly 700,000 cu. yds. of rock and more than 6,000,000 cu. yds. of earth. Included in the dam are 3,856,000 cu. yds. of earth fill, 435,000 cu. yds. of rock fill, and 1,305,000 cu. yds. of concrete. It was necessary to relocate 315 miles of highway and 45 miles of railroad. Preparations for filling the reservoirs required the handling of 4,000,000 cu. yds. of earth in diking and drainage operations for mosquito control, as well as the clearing of some 50,000 acres of land. These figures illustrate the magnitude of this great engineering project.

The Illinois Central Railroad, which formerly crossed the river just downstream from the dam, now crosses on a series of steel girder spans supported on the high abutments of the concrete portion of the dam. The fixed trusses of the abandoned bridge will be salvaged intact and used in the new North Carolina and St. Louis Railroad bridge across the reservoir near Camden, Tenn. The lock was officially opened for navigation on Sept. 12. In addition to regular river traffic, a number of military vessels constructed in shipyards at Decatur, Ala. have passed through the lock on their way to the Gulf of Mexico.

Fontana Project.—Fontana Dam, the world's fourth highest as well as fourth largest in concrete volume, was conceived primarily as a war project for the development of electric power. Consequently, the first thought in the minds of the designers was facilitation of rapid construction and, at the same time, conservation of critical materials. As a result, the dam is a simple gravity type practically free from the usual accessory structures. The power house, while located at the downstream toe, is almost entirely separate from the dam. Both the main and emergency spillways are located entirely away from the main structure. Only the three 14 ft.-diameter intake conduits, leading from the upstream side to the turbines in the power house, pass through the dam itself. Both the design and construction were carried out by TVA forces.

With a storage capacity of 1,600,000 acre-feet, the site of Fontana Dam on the Little Tennessee River is considered as among the best in the Tennessee Valley for power development. Located in the mountains of western North Carolina, the water from Fontana reservoir feeds all of the reservoirs in the Tennessee valley except Fort Loudoun. High water behind Fontana Dam is at Elevation 1,710. The water eventually expends its energy through a total fall of about

1,300 feet before it discharges into the Ohio River.

The 2,800,000 cu. yds. of concrete used in the dam was divided among 35 contiguous monoliths, 50 ft. wide, laid across the river valley. Each monolith was made up of three or four sections in the direction of the flow of the stream. The construction joint between each monolith section was filled with grout after all shrinkage of the concrete had taken place. At midstream, the dam has a height of nearly 470 ft. and a length parallel to the stream of about 400 ft. Elaborate artificial cooling methods were used to limit the temperature rise of the setting concrete and to bring the mass to its final stable temperature within the construction period. Without artificial cooling, heat dissipation from as large a mass as Fontana Dam would take many years. Eventually, the power house will contain three 67,500 kilowatt power units. Only two are being installed at the present time because of a War Production Board deferment.

Additions to Main River Plants.—At Watts Bar Dam, the fourth and fifth 30,000-kilowatt units were placed in commercial operation on March 12 and April 24, respectively. This completes the ultimate 5-unit plant at this hydro-electric station. A fourth 60,000-kilowatt unit is nearing completion at Watts Bar Steam Plant and is scheduled to go on the line in February 1945. Construction of a dock and installation of equipment for barge delivery of coal at Watts Bar Steam Plant have been completed, and the dock has been placed in operation. This dock supplements railroad and truck delivery in supplying the 2,600 tons of coal required each day for the capacity output of four 60,000 kilowatt units.

Navigation.—Except at Wilson Dam, where a double-lift lock is installed, single lift navigation locks at the main-river dams link the chain of slack-water lakes which form a 650-mile continuous and commercially useful navigation channel from Paducah to Knoxville. The channel is useful at all seasons of the year and will accommodate vessels up to a 9-foot draft.

Channel dredging in the upper reaches of some reservoirs was found to be economical in the overall planning of dam sites and reservoir levels. This dredging continued through the year, and only a comparatively small amount of work remains to be done immediately below Watts Bar Dam and Fort Loudoun Dam to place the entire navigation channel in full operation.

The Port of Knoxville public-use river terminal was placed in operation in February and is the fourth to be completed. These river terminals were built under wartime restrictions on critical materials and are constructed principally of wood. They provide a connecting link between water, rail, and truck transportation systems and are expected to take care of the increase in river traffic and to encourage shipping by water whenever possible.

Other Projects.—Construction of a tri-calcium phosphate plant at Godwin, Tenn. was started in March and will be completed in 1945. In addition to several miscellaneous structures built in the Wilson Dam area, a 170,000-pound-per-hour steam boiler was installed to supplement the process steam capacity at U. S. Nitrate Plant No. 2.

Extensions and adjustments to switchyard equipment were made at several of the Authority's power stations, and many miles of high-voltage transmission lines were built to connect the new generating plants to the integrated system.

U. S. CORPS OF ENGINEERS DAM PROJECTS

General.—During 1944, the construction activities of the Corps of Engineers in accordance with the policy of all Federal construction agencies, were curtailed except where they contributed directly to the war effort. Projects under way when the Federal policy was announced have been brought to completion or to a safe point of suspension, where the work could be carried on without detriment to the war activities of the nation. In many cases, the projects were redesigned or modified so that partial flood protection could be provided without using substantial amounts of critical materials, equipment and manpower and without resulting in any loss on the funds previously expended on those works. The more important flood-control projects which were so nearly finished that work was permitted to continue to completion during the year, included projects at Huntington, W. Va., Prattville, Ala., East Hartford, Conn.; Mt. Holly, N. J., Binghamton, N. Y.; Kingston-Edwardsville, Penn.; Northampton, Mass.; Newark, O.; and Lawrenceburg, Ind. Brief descriptions of three flood control projects are given in the following paragraphs.

Mud Mountain Dam, Washington.—Mud Mountain Dam is located on the White River, near Enumclaw, Wash. The project consists of the construction of an earth-and-rock-fill dam 700 feet long and rising 425 feet above bed rock. The reservoir has a storage capacity of 130,000 acre-feet. Outlet works are located in the right abutment and permit controlled discharge of 16,000 second-feet through concrete-lined tunnels, one of which is 23 feet in diameter and the other nine feet in diameter. An uncontrolled spillway has a maximum discharge capacity of 139,000 second-feet.

Youghiogheny Dam, Pennsylvania.—The dam site is located on the Youghiogheny River near Confluence, Penn. The project consists of a rolled earth-fill dam with separate uncontrolled side-channel spillway and tunnel outlet works. The dam is 1,610 feet long and rises 184 feet above the stream bed. The gross reservoir storage capacity is 254,000 acre-feet.

Mosquito Creek Dam, Ohio.—The dam is located on Mosquito Creek nine miles above the junction of that creek with the Mahoning River at Niles, O. The project consists of a rolled earth-fill dam with outlet facilities through the dam and an uncontrolled natural waterway to discharge overflow from the reservoir into the Grand River, a tributary of Lake Erie. The dam is 5,650 feet long and rises 47 feet above stream bed. The reservoir provides a gross storage capacity of 107,000 acre-feet.

Denison Dam (Lake Texoma) Texas and Oklahoma.—Denison Dam is located on the Red River approximately five miles northwest of Denison, Texas. The project provides for the construction of a rolled earth-fill dam 15,200 feet long, rising 165 feet above stream bed, creating a reservoir with a storage capacity of 2,750,000 acre-feet for flood control, 2,060,000 acre-feet for power and 1,020,000 acre-feet for silt. Work under a continuing contract for construction of the main dam embankment and for excavation of the spillway was completed. A total of 845,788 cu. yds. of earth and rock were excavated and a total of 1,545,044 cu. yd. of random pervious and impervious fill were placed. Construction of the power house and installation of power-house equipment was completed. All railroad, highway, and utility relocations were essentially complete. The entire project was 92 per cent completed.

Norfork Dam, Arkansas.—Norfork Dam is located on the North Fork River about 4.8 miles above its confluence with the White River near Norfork in Baxter County, Ark. The project includes the construction of a concrete gravity dam 2,624 feet long and 220 feet high forming a reservoir with a storage capacity of about 732,000 acre-feet for flood control and about 1,251,000 acre-feet for power and stream-flow regulation. The dam consists of a spillway section 568 feet long located above the existing river channel and two non-overflow sections contiguous thereto, which extend to the abutments. Gate-controlled conduits through the base of the spillway section will provide for regulating and discharging flood flows. Four penstocks for power generation are also included. Work performed under a continuing contract included the excavation of 13,138 cubic yards of rock and the pouring of 465,589 cubic yards of concrete. About 840,000 pounds of reinforcing steel were used. Clearing of the reservoir area and the relocation of roads were completed. Fabrication of penstock gates and construction of the power house were completed. One power generating unit was installed. Construction of the project was approximately 97 per cent completed.

Barker Dam, Texas.—Barker Dam is located on Buffalo Bayou west of Houston, Tex. and south of Texas State Highway No. 73. It is an impervious earth-fill structure 72,844 feet long rising to a height of 37 feet at its maximum section across Buffalo Bayou. The outlet works through the dam consist of seven precast concrete culverts eight feet in diameter, two of which are equipped with control gates. The entire project was approximately 70 per cent completed.

Navigation and River Control Projects.—The Corps of Engineers carried on emergency repairs during the year to over 400 levees and flood protection structures throughout the nation which had been damaged by the disastrous floods of 1943. Floods again occurred during the spring of 1944 causing widespread destruction in the midwestern area of the United States and especially in the lower Missouri and upper Mississippi River valleys. On May 29, 1944, Congress authorized an expenditure of $12,000,000 for emergency flood control work to repair the structures damaged by those floods and to restore flood protection to the flood-threatened areas. The work accomplished or to be accomplished under the authority of this emergency act includes the repair, restoration, and strengthening of existing levees and other flood control works.

NAVIGATION AND RELATED PROJECTS

Floodgates on the Gulf Intracoastal Waterway, Texas.—Construction of sector type gates at the Colorado River crossing of the Gulf Intracoastal Waterway to prevent shoaling of the waterway during times of flood on the river was completed. The structure consists of two gates with a control house, and power control and lighting system for each floodgate. These works and those previously completed in the Brazos River were in operation during the floods of 1944.

Mississippi River Between the Ohio and Missouri Rivers.—Extensive construction work to regulate and stabilize the navigation channel was carried on throughout the first half of the fiscal year ended June 30, 1944, but during the second half of the year, practically no construction work was performed because of high river stages. Nine revetments, totaling 8,665 feet in length, consisting of 778,300 square feet of mattress and 293,200 square feet of paving, and six dikes totaling 1,975 feet in length, were constructed at various localities along this reach of the river. Open-river regulating works are now 86 per cent completed.

BUILDINGS

General.—As was the case with all types of construction during 1944, the construction of buildings was carried on almost exclusively for the uses of the war industries. In the effort to economize in the use of materials and to speed up progress, numerous innovations were tried. Precast reinforced concrete arch units with 90 ft.-span for an auditorium roof, unusual uses made of hinges to reduce continuity in reinforced concrete girders, demountable steel arch hangers with 160-ft. span designed for speed of erection and removal, glued laminated timber arches with 171-ft. span, and timber bowstring trusses with 230-ft. span and with glued laminated chords and connector joints are among the year's interesting developments. A few examples of buildings constructed during the year, chosen because of their magnitude or because of the novelty of the type of construction used, are described in the following paragraphs.

Open-hearth Building, Kaiser Co., Fontana, Calif.—This building supported by a steel frame is among the largest of its type built during 1944. It is 390 by 900 ft. in plan and has a 30 by 400 ft. approach trestle carrying two standard gage railroad tracks. The charging aisle and pouring aisle, the two main aisles of the building, are provided with a 125-ton and a 250-ton capacity bridge crane, respectively. In addition to crane and roof-loads all structural members were designed to resist wind and earthquake stresses. Design considerations required the minimum use of steel, and columns were supported on mass concrete footings instead of the usual reinforced type.

Army Post Office, Long Island City, N. Y.—Completed about Oct. 1 and covering an area of 14.5 acres, the Army Post Office at Long Island City was built under the direction of U. S. Corps of Engineers in approximately 4½ months. It is a single-story type of industrial building with gypsum roof supported on timber columns and trusses with ring-connector joints. The walls are of cinder-concrete block. The structure is notable for simplicity of design and for speed of erection.

Minneapolis Research Hangar.—This building used 230-ft. clear span wood bow string trusses, probably the longest trusses of this type ever built. Both the upper and lower chords were of glued laminated construction with a K-type web system and joints secured with split-ring connectors. Ten trusses were required for the 140-ft. length of building.

Hangar at Hagerstown, Md.—This hangar claims attention because of the long-span glued laminated timber arches used as the main supporting roof members. These were 171 ft. in span and 7½ by 36 in. in cross section. The structure is 48 ft. high inside and 120 ft. long.

Military Depot at Auburn, Wash.—This project, located in the White River Valley is one of the largest military installations ever built on the Pacific Coast. As has been true of most war projects, speed of construction has also marked the completion of this one. Among the outstanding features of construction was the simultaneous erection of 12 200-by-835 ft. one-story warehouses and 41 miles of service railroads. The warehouse roofs are supported by timber trusses and columns with concrete block walls. All foundations were built of plain concrete.

Flight Hangar at Buffalo, N. Y.—Seven hangars 130-by-200 ft. were incorporated into one rigid frame reinforced concrete structure in this flight hangar. The main frame was poured monolithically and supports precast roof slabs and joists. Speed of erection and availability of materials dictated the type of design used.

BRIDGES

General.—While there were some notable achievements in bridge construction during 1944, the actual number of bridges built was comparatively small and the progress made was chiefly in the art of erection. The primary efforts of the railroads, highway departments, and bridge authorities generally have been expended toward the maintenance of structures already in existence.

Highway Bridges.—However, the year marked progress in the construction of the first major limited-access highway in the midwest—the Detroit Industrial Expressway—connecting Detroit with the newly-industrialized area at Willow Run and involving the construction of many grade-separation structures. Ohio, also, built numerous bridges and grade-separation projects as a part of a war program to improve access roads throughout the state. These are typical examples of the war-limited programs conducted by many of the state highway departments.

An interesting reinforced concrete bridge built by the Missouri State Highway Department on Route 66, 20 miles west of the city of Rolla, consists of a main 160-ft. arch span with a maximum rise of 25 ft. 9 in., flanked by two 100-ft. arch spans and several girder approach spans varying from 45 to 50 feet in length. Built as a part of a two lane highway, the structure was designed and erected as parallel twin bridges, each with two main arch ribs separated by a raised median strip, six feet wide. The use of twin bridges eliminated an uncertain distribution of stresses which would have occurred in the wide monolithic structure. Designed for H-20 loading, it has been stated that this is among the most beautiful of Missouri bridges.

An unusual timber bridge designed by the State Highway Department of Maine was built over the Allagash River near St. Francis. The main crossing is carried by two curved-chord Parker trusses, 160 feet in span. There are two side spans of 120 feet each carried by parallel-chord Pratt trusses. The main trusses have a center depth of 30 feet while the side spans have depths of 20 feet. There is a roadway width of 14 feet. The truss joints are made with steel gusset plates and shear plate and split ring connectors.

Freak Bridge Disaster.—A bridge disaster which occurred during the year is worth recording. On July 29, the two-span continuous truss bridge across the Mississippi River at Chester, Ill., was lifted in its entirety from the piers by a freak wind storm and deposited in the river. There was no loss of life. In addition to the continuous truss structure which consisted of two 670-ft. spans there were several approach truss and girder spans. These were not damaged by the storm. This accident will result in a resurvey of the conventional methods used to provide for wind loads in bridge design.

Peace River Bridge.—While the Peace River bridge was dedicated in late 1943 and was briefly mentioned in THE AMERICAN YEAR BOOK, 1943 it seems proper to make a more complete historical record of it in this 1944 review of structural engineering. The same pressing need which motivated the construction of the entire Alaska Highway was felt toward the construction of the suspension bridge erected to carry that highway across the Peace River in British Columbia and the record set in the time length of its erection in that far off location is an outstanding engineering achievement. Eight months after contractors were given notice to proceed, traffic was moving over a structure built under some of the severest of weather conditions, 50 miles from the nearest railroad and 3,000 miles from sources of supply.

The 2130-ft. main structure is a standard type parallel-wire cable suspension bridge with loaded backstays. There are 930 feet between towers with two 465 ft. side spans and two 135-ft. approach spans. The cables are 30 feet center to center and the roadway is 24 feet wide, curb to curb. The stiffening trusses which are of the continuous type are 13 feet center to center of chords. It was necessary to build the roadway on a grade of approximately 2.6 per cent and consequently one of the towers is higher than the other, in one case top steel being 168 feet and in the other 191 feet above the top of the piers. An unusual amount of plain rolled structural steel sections was used in the deck and stiffening trusses to save detailing and fabrication time.

Jefferson Barracks Bridge.—Jefferson Barracks bridge spanning the Mississippi River five miles south of St. Louis was dedicated Dec. 9-10. This highway structure, started in 1940, was to have been completed in 1942 but material shortages delayed its completion until 1944. This new crossing will bypass traffic between Missouri and southern Illinois around the congested districts of St. Louis. On both sides of the river the approach spans consist of steel I-beams, plate girders, and deck trusses ranging from 59 to 134 feet in length. The main river crossing is carried on three-span continuous steel trusses with a center span of 804 ft. and two side spans of 670 ft. The two trusses are 30 ft. center to center and 110 ft. in depth over the piers. The piers are built of reinforced concrete, the deepest being carried to rock 82 feet below mean low water.

MECHANICAL ENGINEERING

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GENERAL

The third year of war production has shown such an increase in the manufacture of certain critical materials that output in some plants has been reduced. In the steel industry, in which most weekly reports show operation at more than 95 per cent of capacity, has achieved the production of ingots and castings of over 89,000,000 tons, and the finished steel amounts to 66,000,000 tons. The finished steel output in 1929 established the peak of 45,000,000 tons.

Industrial employees at the end of 1943 numbered 23,000,000; during 1944 the least number was 20,797,000. Women contributed largely to this total. On the railroads over 112,000 women are working not only as cleaners and clerks but as helpers in the skilled trades of machinist and blacksmiths, oilers, round house aids, fire fighters, journal box fillers, and even for maintenance of way. In the steel industry ten per cent of the workers are women. In the airplane industry there are more women than men, and in instrument making and electrical machinery plants one third are women.

During the year the manpower shortage was met on a number of railroads by the employment of high school boys 16 years of age. On some roads these boys received 50 cents per hour, working 8 hours per day. They were first trained at company expense. Many have remained in the railway employ.

EDUCATION AND TRAINING

The enrollment of deferred civilians in technical schools has been limited to about 10 per cent of the number before the war. The accelerated programs with no summer vacations have shown that students in such courses do as well academically as non-accelerated students. It has also been shown that those taking a heavy schedule achieve greater success than those with a lighter burden. Many of these students are fatigued and lack exercise, recreation, and a desirable social life. The Army Specialized Training Programs in Engineering were almost eliminated by the middle of the year and the number assigned to the Navy V-12 Programs was reduced.

EDUCATIONAL TRAINING IN THE ARMED FORCES

The work under the United States Armed Forces Institute has increased to 350 subjects of college level and 87 of high school level in 80 cooperating colleges. In February 1944, more than 20,000 service men and women were enrolled in correspondence courses of the college level and more than 100,000 were taking other courses. In order of enrollment the following groups of courses were given: Social Studies, Mathematics, Business, English, Foreign Languages, Science, Mechanical Engineering, Electrical Engineering, Professional Subjects, Miscellaneous.

ENGINEERING, SCIENCE, AND MANAGEMENT WAR TRAINING

Since the beginning of these courses in 1940 as Engineering, Science, and Management Defense Training, 1,688,387 trainees have been enrolled of which 16 per cent have been women. Seventy-five per cent have taken engineering courses, 22 per cent chemistry, 1.8 per cent physics, and 21 per cent production supervision. The purpose of these courses was to meet shortages of trained personnel in industry and education. Two hundred and twenty-six institutions have reported enrollments in 66,790 courses.

As of Nov. 30, 1944 there were still 173 institutions offering 5,117 approved courses with an enrollment of

120,581. These were divided as follows: Engineers 64 per cent, chemists 3.1 per cent, physicists 2.9 per cent, production supervisors 30 per cent. During the year ended July 1, 1944, there were 412,367 enrolled in courses with about the same distribution among the various classes of shortages noted for Nov. 30, 1944.

POWER PLANTS

During the year, the peak demand for electric power reached 42,000,000 kw, an increase of 1,000,000 kw over 1943 and 13,000,000 over that of 1939. The capacity of the Public Utility Plants has increased by 9,000,000 in five years. The total production for electrical energy of the United States in 1944 was 280,000,000,000 kwh of which 61 per cent was used in industry which developed about 30 per cent of its requirements by its own stations. The demand has been so continuous that the load factor increased to 64 per cent in 1944. Industry now accounts to 50 per cent of the peak demand which is now within 8,000,000 or 10,000,000 kw of the installed capacity of the country.

Although a few new power plants were completed during the year, capacity was increased by the replacement of small inefficient equipment by larger modern units. For instance, the Commonwealth Edison Company replaced turbines and boilers developing 36,000 kw by a 147,000 kw steam turbo-generator on a single shaft supplied from two steam generators. This space was originally occupied by three vertical turbines and their boilers totaling 15,000 kw. The new unit operated at 1250 psi and 950 F. This one unit has twice the capacity of the 14 turbo-generator and the 112 boilers originally installed in the Fisk Street Station.

The combinations of hydro-electric and steam driven plants in a number of systems have been operating to conserve fuel as well as to meet peak demands over large inter-connecting net works.

The world's largest gas engine power plant, used in the production of aluminum, has a capacity of 78,000 kw and went into operation 15 months after orders were given for the engines. The plant is in four buildings, each 120 ft. x 225 ft. and 33 ft. from floor to roof. Each of two buildings house 25 750 kw units, and each of the other two houses nine units of 2250 kw. The units are started by air from a central system.

At Shasta Dam two of the 75,000 kw hydraulic turbine-generators were started in July and as the dam is being completed the remaining three units the same size will be added. This plant has a drainage area of 6,600 square miles, and to care for heavy run offs the spillways will handle 190,000 cfs. Eight miles below the Shasta Dam is the Keswick Dam and Power Plant in which units totaling 80,000 kw will be installed. The lake behind Shasta Dam is the eighty-eighth lake under the control of the Bureau of Reclamation. The aggregate capacity of these lakes in 16 western states is 16,500,000 acre-feet.

The power houses at the Grand Coulee Dam and at the Bonneville Dam now have a combined capacity of 1,300,000 kw. Plans have been made to develop 4,500,000 kw on the Columbia River.

The interconnection of 3,000,000 kw in Oregon, Washington, Montana, Utah, and Idaho by 13,000 miles of power lines has made spare equipment in 11 major power systems available as well as making hog fuel from the lumber mills usable for electric generation and water storage. Such interconnection has been used in other parts of the United States so that peaks have been reduced by 1,500,000 kw, and 1,500,000,000 kwh per year have been saved. This is equal to a saving of at least 1,000,000 tons of coal.

Mobile power plants on railroad cars have been constructed for use in Europe and Asia. Forty plants of 3000 kw have been constructed by the General Electric Company and 10 plants of 5000 kw have been furnished by the Westinghouse Electric and Manufacturing Company. These consist of two boiler cars with tenders, one turbine car, one switch gear car, three cooling tower cars or two radiator type cooling cars, and one car for the operating crew. Steam at 300 psi and 600 F is used with induced draft and feed water heaters for the boilers on the G.E. units while the Westinghouse units operate at 60 psi and 750 F with exhaust at 2 psi. The plants are designed to use low grade coal of 7000 Btu per lb.

In addition to these, 47 smaller three car units of 1000 kw have been built, the General Electric Company constructing 23 and the Westinghouse Company 24.

Package type power plants for rapid erection in Russia and China have been completed and made up into crates of sub-assemblies which can be transported by ship and rail. They are of a standardized design for ready assembly at unaccessible sites. Dependability and simplicity of operation have guided the design. The 500 kw plant consists of eight packages and is designed to require 31,000 Btu per kwh with steam at 250 psi and 450 F or 300 psi and 700 F. The generator is designed for 400v—3 phase, 50 cycles. The space for the erected unit is 34 ft x 55 ft.

The Bureau of Yards and Docks of the U. S. Navy has acquired two 10,000 kw mobile power plants on railroad cars for use at Naval installations as well as units of 5000 kw and 3000 kw. The Bureau also uses 600 kw Diesel power plants mounted on steel frames to be moved by trailer trucks or by railroad. One of its 30,000 kw floating power plants has been given to foreign service.

The Army has constructed a floating power plant mounted on a barge which is equipped with Diesel Engines totaling 6000 kva.

The General Electric Company has constructed a 3000 Kva substation on a truck for use in emergencies with transformers, switch gear, circuit breaker, and lightning arresters.

STEAM BOILERS

The boilers of the year usually operated with superheated steam below 1000 F. Two radiant type boilers, each producing 350,000 lbs of steam per hour were designed for 875 psi, 900 F. These contain 12,690 sq ft of water heating surface: 10,973 sq ft in superheaters, 5,477 sq ft in water walls, 49,257 sq ft in air heaters and 15,900 sq ft in economizer. A boiler for 1400 psi, 910 F, delivering 430,000 lb of steam per hour was installed in a new power plant, the heat release being 24,000 Btu per hr cu ft. A semi outdoor boiler with firing room under cover was erected at Los Angeles for process work at 450 psi and 150 psi after use in turbines from 600 psi, 750 F steam.

In many power plants the scale formation on turbine blades reduces efficiency and its removal is expensive in labor and outage costs. Experiments indicate that sodium silicate liberates silica as silicic acid at 700 F without mechanical entrainment of boiler water, and this passes out with the steam. Little trouble is experienced if the boiler water has less than 5 ppm of the silica with a pH of 11. When there is 0.1 ppm of silica in the steam deposits occur.

The Anthracite Institute has developed a new type of boiler in which anthracite fuel is fed into one end of a six-inch tube by a screw. Combustion occurs in this tube through which air is drawn from the ash pit at the other end of the tube. The combustion occurs near the center of the length of 18 in of the tube so that the gases of combustion ignite and preheat the green coal, and the ashes which are forced out from the open end of the flue give up heat to the walls and are discharged into the ash pit. Water surrounds the tube and receives heat by radiation, conduction, and convection. Although this boiler is only in the experimental stage, its efficiency of 60 per cent is good. The CO_2 is from 16 to 18 per cent, and the final flue gases are at 250 to 300 F. It is automatically controlled.

Boilers using Dowtherm are being extensively used where heat at 400 F to 700 F is required. One boiler may be used as a heat source for apparatus at various points and with different temperature requirements. On some boiler installations Dowtherm is vaporized in an economizer to be delivered to the air preheaters placed near the furnace of the boiler.

FUELS

Experiments have been made in Cuba with asphalt as a boiler fuel. Although the ash from one bed is 42 per cent and from another 22 per cent, efficiencies of 77.4 per cent have been obtained. Barley (no. 3 buckwheat) coal has been used at Camp Kilmer, Stelton, N. J. with 20 per cent to 68 per cent bituminous coal.

PIPING

By placing heat insulation within steam pipes, protected on the inside by a sheet iron lining, the temperature of the pipe metal carrying highly superheated vapor of 1000 F to 1500 F is held at 650 F so that its strength is not decreased and thinner walls may be used with high pressure. Velocities of the vapors of 500 fps have been used without difficulty.

Pipes made of pyrex glass are manufactured in length of six to 10 feet and of diameters of one in to four in for use in chemical plants with fluids at 900 F. The joints are made by metal flanges in contact with the glass using asbestos gaskets between the flanges and between the abutting ends of the glass pipes. Pressure of 100 psi may be used safely. For pipes 18 inches in diameter, carrying low pressures, bell and spigot joints are used. This piping is not corrosive except with hydro-fluoric acid or hot concentrated sulphuric acid. Its coefficient of expansion is 1/3 that of steel or about ¼″ per 100 ft for a change of temperature of 100 F.

Piping of plastics has been made during 1944. "Saran" of the Dow Chemical Company may be used continuously below 170 F, and "Tenite" of the Eastman Tennessee Company has a range of 140 to 150 F. The expansion is much greater than that of steel. The sections are joined by flanges of the same material or they may be welded by heating the ends and forcing them together until solidification. The materials are resistant to the action of many chemical solutions. They are particularly valuable when an electrical non-conducting pipe is desired.

Jigs are used in forming the piping assemblies for the duplicate ships of the Maritime Commission, so as to speed building.

BIG INCH OIL LINES

In its first year this 24 in pipe line of 1,363 miles from Texas to the Philadelphia and New York area averaged 263,000 bbl of oil per day. In July 1944 the average was 314,134 bbl per day. The design capacity was 300,000 bbl per day. It replaces 23,000 tank cars on an 18-day round trip schedule.

STEAM TURBINES

Most of the turbines for power plants are using steam pressures between 650 psi and 1450 psi and steam temperatures of 825 F to 950 F. Some topping units were installed during the year as well as condensing units, and the War Production Board permitted orders to be placed for deliveries of large turbines in 1945. The largest single shaft turbine in use delivers 165,000 kw and had 50,000 hours of operation by July 1944.

The Pennsylvania Railroad installed a steam turbine driven 6-8-6 locomotive using a geared turbine for forward motion and a clutched geared turbine for backward motion. This operates at 310 psi, and the main turbine develops 6900 shaft lip at 9000 rpm. The weight of this locomotive is 582,700 lb of which 260,000 is carried by the 8-68 in drivers. The tender carries 18,000 gallons of water.

GAS TURBINES

In seven years 35 gas turbines have been installed in the United States. Eight have been built by Brown, Boveri and Company of Switzerland and 27 by the Allis Chalmers Company. Most of these are used in the petroleum industry. The General Electric Company has built an exhaust gas turbine of 3500 hp and the Elliot Company is building a marine gas turbine. The thermal efficiency is in the order of 17 per cent or 19,600 Btu per kwh. Some gas turbines have given 14,000 Btu per kwh.

These applications of the gas turbine led to a large number of technical papers during the year, and proposals were made to increase efficiency. Designs were made for gas turbines for locomotive and marine propulsion. In the latter designs thermal efficiencies of 21 per cent were claimed. To obtain high efficiency, regenerators, inter-coolers, and reheaters must be employed. The efficiency of large steam turbines is 28 per cent and supercharged Diesel engines 40 per cent.

HYDRAULIC TURBINES

One of the new turbine plants of the year is the No. 5 Pit River Plant in California. It has four 50,000 hp Francis turbines under a static head of 630 feet. On the 75,000 hp turbines at the Shasta Dam an air operated brake stops the rotation of the parts in 7½ minutes after cutting off water. These parts have a WR^2 of 84,500,000 ft lb.

STEAM ENGINES

Steam Engines for marine propulsion and for auxiliaries were built during the year.

INTERNAL COMBUSTION ENGINES

The principal productions during the years have been the gasoline and Diesel engines for transport vehicles and airplanes although there have been many Diesel engines built for industry and transportation.

February of 1944 marked the completion of 7 years of use of an isolated Diesel plant at 2 Park Avenue, New York City, without a shutdown or major repair. This office building is served by four 450 Worthington Diesels driving 300 kw Crocker-Wheeler generators. The repair parts and supplies used cost $5,675. Fuel, lubricant, supplies, labor, and metering cost 0.97 cts. per kwh. The plant produces 12.25 kwh per gallon of fuel oil and 1746 kwh per gallon of lubricant. The installed cost of the plant was $297,000, and it has received a profit above expenses of $256,179 from tenants with no allowance for the general lighting and elevator service of the building by the owner. This building-cost to the owner was $53,209 for general lighting and elevator service in the year preceding the installation of this automatic equipment.

Municipal light and power plants using Diesel engines report profits showing complete amortization in less than ten years. The record of one plant for 15 years with oil at 1.90 cts. per gallon showed an overall cost of 0.416 cents per kwh. The fuel oil produced 10.50 kwh per gallon.

Diesel engines have been operated with compressed natural gas successfully for a number of years, using modified fuel pump mechanisms and governors to regulate the quantity of gas admitted.

Gas engines operated from gas delivered from the digesters of the sewage disposal plants of New York City have a capacity of 25,600 hp. At one plant the gas has a heating value of 640 Btu per cu ft with 64 per cent methane and 33 per cent CO. At another plant operating at 53,000,000 gallons per day, the gas produced was 92,000,000 cu ft per year generating 4,100,000 kwh. The first engine was a 7-cylinder 800 hp 300 rpm unit with 560 kw generator of 208v-60 cycle. It was started in 1936, and by 1943 there were 24 engines in the four plants of the city sewage disposal system.

On Jan. 5, 1944 the General Motors Corporation completed the 100,000th Diesel of Series 7. These are six-cylinder two-cycle engines.

The power equipment at one new arsenal totals 68,950 hp of internal combustion engines including 24 1000 hp by the Cooper Bessemer Company, 19 1000 hp by the Worthington Co., and 11 1450 hp by the Rathburn Jones Co.

The large size Diesel engines listed in the specifications for 1944 are 9-cylinder Nordberg engines of 6000 hp to 6400 hp, and 10-cylinder Busch-Sulzer engines of 3400 hp. The best fuel rate for the 6000 hp engine is 0.345 lb per hp with oil of 18,345 Btu per lb. It can carry a 10 per cent overload continuously or 25 per cent for two hours. The trial run extended over 360 hours at 6000 hp, 48 hours at 6450 hp hours, and two hours at 7500 hp.

Nordberg Marine Diesels of 4000 to 8000 shaft hp are being built for Victory Ships.

On most Diesel engines, where weight is important, superchargers compress the air so that the power output is increased by 50 to 60 per cent through the introduction of a larger quantity of air per charge.

TRANSPORTATION

The railroads of the United States recorded 96,000,000,000 passenger miles in 1944 which is four times the number recorded in 1940, while 748,000,000,000 ton miles of freight were hauled, double that of 1940. This record has been made with fewer locomotives than those available in the peak year of 1929. One reason for this fact is that locomotives are maintained in better condition, and the availability of 75.3 per cent of the usable locomotive has been increased to 85.5 or 87.1 per cent. Another practice which has permitted this excellence of service is the pooling of passenger and freight locomotives and the extension of the locomotive runs over several divisions with a change of crews. Freight trains have been operated at 60 mph.

The new steam locomotives for fast passenger and freight service are usually of the 4-8-4 class with weights of locomotive alone varying from 400,000 lb. to 500,000 lb. and tender weights from 148,000 to 369,000 lb. in loaded condition.

The use of four high pressure cylinders, in place of the customary two cylinders, on the new 4-6-4-4 locomotives of the Q class of the Pennsylvania R.R. reduces the pressure on the moving parts by the use of smaller cylinders and avoids the long coupling rod system on a 4-10-4 locomotive. These locomotives will use pressures of 300 psi.

A number of Mallet locomotives were built during the year. Those for the B & O of 2-8-8-4 type have a weight of 628,700 lb with a tender weight of 304,000 lb. At 45 mph it has a draw bar pull of 6,000 lb and a tractive effort of 115,900 lb. The axles are equipped with roller bearing.

The Baldwin Locomotive Works completed 112 years of continuous operation in 1944. During the year it delivered the seventy thousandth locomotive.

The year marked the first decade of streamlined trains with internal combustion engine drive as the pioneer "Zypher" of the Burlington was exhibited at Philadelphia on April 18, 1934 and then went into service. In the next year 14 trains of this type were in operation on 10 railroads and in 1944 there were 22 railroads with a total of 224 trains. Some of these trains have been run at a maximum speed of 120 mph.

Although the number of steam locomotives greatly exceeds the number of Diesels and electrics, trends show the advantages of Diesels for switching and through train service in that 415 Diesels were put in service in the first eight months of 1944 as compared with 241 steam locomotives and one electric. The Diesels are available on some roads for more than 90 per cent of the 24 hours, and complete overhauls occur after 700,000 miles of service on one line while one line makes this overhaul after 1,000,000 miles. It is pointed out, however, that, although the Diesel requires less work in the daily round house service, the repair shop crews must be larger than those for the same number of steam locomotives. The non-change trip from Chicago to Los Angeles on the Atchison, Topeka, and Santa Fe is 1,788 miles.

The customary equipment for passenger Diesel locomotives is two units with a total of 4,000 hp, and for freight service the horsepower in the two units is 5,400 hp. For switching service single units of 1,000 hp or 600 hp are employed.

The builders of locomotives and cars for foreign war service have been faced in six track gages, 20 coupler arrangements, three systems of brakes, and with many different limitations on axle weights and clearances.

During the year examinations were made of the continuous rails installed on five railroads. These totaled 90 miles; two roads reported no difficulties; two reported some failures at the welds; and one reported the replacement of ties on bridges. Maintenance in tunnels is greatly reduced, there is less destruction of ties, and more smooth running. One road reported a decrease of 25 per cent in cost of maintenance.

Centralized traffic control by which the trains in railroad division lengths of 50 to 96 miles may be operated from central points was announced for many roads during the year. This control system not only reduces the number of operators but train schedules are made faster and hold-overs are eliminated. Another innovation on a number of roads is the telephonic communication between the operators on trains and between them and dispatchers at their offices.

The higher train speeds of today have shown the necessity of dynamic balancing of car wheels.

Plywood has been used for the exterior and interior of 1000—50 ton freight cars and on the doors of 600 other cars. The full use of this lighter construction on steel frames and bases for loads of 100,000 to 123,000 lb has reduced the empty weight to 48,700 lb.

HEATING, VENTILATING AND AIR CONDITIONING

During the year installations of heat pumps were reported for four buildings of volumes varying from 50,000 cu ft to 170,000 cu ft. In these installations the refrigerating systems which cool air in the summer utilize the evaporating coils to abstract heat from the cool atmosphere in the winter by the evaporation of the refrigerant so that this heat and the heat equivalent of the work of the compressor can be extracted in the condenser for heating the building. So far the cost of operation in most areas does not justify this satisfactory method of year-round air conditioning. Studies are being made on air borne bacteria which show that filters and precipitators are of some value. Ultra violet ray lamps have been tested in school rooms and barracks and have proven of value.

REFRIGERATION

Proposals have been made for the refrigeration of frozen foods by shipment on high altitude airplanes in regions of —40 F, about 26,000 ft. Claims are made that freezing would result on a flight between Florida and New York.

The All Weather Laboratory for the Corps of Engineers of the U. S. Army includes a high temperature room 44 ft x 14½ ft x 13 ft with a possible temperature of 150 F and a low temperature, low pressure room 22 ft in diameter and 48 ft long with a possible temperature of –76 F and an absolute pressure of less than 4 psi. The largest circulating fan in the laboratory has a capacity of 100,000 cfm.

For the cold storage of food stuffs an old limestone mine of 12,000,000 cu ft has been equipped with refrigeration to hold temperatures at 30 to 32 F although the normal temperature is 50 F. This warehouse will care for the capacity of 3,500 freight cars.

At the low temperature laboratory of The National Advisory Committee on Aeronautics at Cleveland, 14 carrier centrifugal type four stage machines have a capacity of 7,500 tons of refrigeration requiring 21,000 hp. This is needed to hold the temperature of –67 F in the air stream of the tunnel at 500 mph by removing the heat from friction and infiltration.

SHOP PRACTICE

A new method for removing broken drills from non-ferrous parts and stainless steel is the mechanical electrolytic procedure in which the anode drill or tap goes into solution. Blocking agents protect parts of the material from which the broken part is removed. Another method removes the broken tool by dynamite, while another uses an interrupted electric arc.

The Metalock and Masterlock Processes used to repair broken casting requires the removal of 20 per cent of the metal across the break and the insertion of prepared lock bars. A factor of safety of 4 is obtained for structure designed originally for a factor of 5.

Large castings of iron are being salvaged by cutting out defects and then inserting stud bolts into drilled holes properly spaced in the cleared space after which this is filled by oxyacetylene or electric welding. The weld is stress relieved at 1100 F.

The Cooper-Bessemer Company places oil piping in their foundry molds for rocker arms and crank shafts of meehanite casting as well as in those for aluminum pistons to eliminate the drilling of these passages.

To speed the production of large internal gears for gun mounts, teeth have been roughly cut by metal band saws after which the teeth are hardened and finished by grinding.

The coolant used in grinding glass gages is plain water which must be filtered by 10 or 12 layers of fine cheese cloth. Wheel speeds of 6000 fpm are used in grinding.

It has been found that for metal work the refrigeration of the coolant to 70 F before re-use gives longer life to tools.

The life between grindings has been lengthened by the final regrind with fine grit wheels. This finish also reduces the power consumption of the machine tool and improves the quality of the work. The life is also increased by flash chromium plating on a tool after grinding, although buffing and honing may follow the plating.

Cycle welding is the name given by the Chrysler Corporation to the use of a thermosetting plastic bond between metal and metal, wood, rubber plastic or ceramic materials. This reduces the number of rivets by 900 out of 1,200 formerly used on one structure.

TOOLS

The largest planer reported in 1944 was one built by the Gray Company with an opening 144 in x 120 in and a bed length of 360 in.

In making cylinders of Wright Aeronautical Cyclones, at battery of 10-16 in six-spindle Bullard machines are placed for sequential operation with a cycle time of 11 minutes.

The wax casting process of Benvenuto Cellini has been used again for the construction of molds for the casting of intricate forms with tolerances of five ten thousandth of an inch. First master patterns are made followed by a lead mold in which the wax pattern is formed. After dipping the hard wax in a pre-cooled suspension of fine silica flour in a suitable binder it is dried and then the mold is made with silica sand and binder. The mold is then placed in an oven at 250 F and after the wax is drained off the temperature is slowly raised to 1650 F and it is then used for receiving the casting metal.

Photo electric cells have been used for the inspection of hand grenades at the rate of 4,000 per hour, and x-rays are used for the inspection of shells.

The use of three dimensional surface plates in the airplane industry for the gaging of plane parts has reduced the setting up time and that of tooling. By incorporating gaging plates on castings accurate inspection can be made at the foundry and points are established for placement on machine tools. Cast plastics inspection fixtures are also used.

The General Electric Company uses wood models of machines in the preliminary study for design.

When electro deposition is used for building up worn parts or those which have been made undersize care must be taken to use metals which have proper adhesion. Although mild steel, structural steel, copper, unalloyed brass, and nickel are coated easily, steels containing tungsten, bronzes, alloy brasses, and aluminum require special processing. There is only medium adhesion on stainless steel, cast iron, chromium case hardened steel, nitrided steel and some aluminum alloys. Most aluminum and magnesium alloys have poor adhesion.

In strip galvanizing the iron sheet

is pickled by a gas atmosphere free from oxygen but containing some hydrochloric acid after heating in an atmosphere of nitrogen and carbon monoxide. After passing through the zinc bath it is cooled in a non oxidizing atmosphere, washed, and then dried. After such manufacture, deep draws are possible without cracking the coatings. The non-oxidizing atmospheres are produced by controlled burning of gas with drying to low moisture content. These atmospheres are used for heat treatment of armor plate.

Radiant gas heaters are used for heat treatment of metals to prevent oxidation. Gas is burned in tubes within an insulated shell which is placed over the metal to be heated, and the non-oxidizing gas within this shell is circulated by a fan. By assembly of material on bases, a shell may be taken from a base on which treatment is complete to another base, saving time and eliminating the necessity for reheating the shell. The gas within the shell usually contains 4½ per cent CO_2, 8 to 10 per cent CO, 10 to 12 per cent H_2 and the remainder N_2. Temperatures of 1500 F to 1650 F are customary within the shells.

In the manufacture of the Garand rifle, broaching has been substituted for milling. This has resulted in a reduction of cost of 57 per cent and a reduction of 50 per cent in man hours.

MATERIALS

Poruskrome (chromium) is deposited on valve bushing and cylinder liners to reduce friction and prevent wear when high octane gasoline is used for fuel. The chromium is deposited electrolytically and then by reversal of the current for a definite time the proper amount of this is removed.

To uncover a bed of 7,000 acres of high grade iron ore beneath a lake in northwest Ontario, this lake is being unwatered at an expense of $800,000. Fourteen 24″ cameron pumps with 500 hp motors were in operation on Jan. 4, and by March 15 the level had been reduced 50 feet. The pumps remove 2,000,000 tons of water per day, about 500,000,000 gallons. It is estimated that 1,000,000 tons of ore will be removed in 1945, and then in 15 years the remaining 30,000,000 tons of ore will be delivered.

It has been found that the cold treatment of tool steel at –150 F for several hours, following the usual heat treatment increases the life of the tool between grindings by 80 per cent to over 1,500 per cent with some taps. This is due to the change of the Austenite into Martensite which occurs slowly at room temperature.

INSTRUMENTS AND TESTING

A stroboscope is used at Pennsylvania State College to study fuel jet phenomena in Diesel engines such as initial injection, duration, secondary injection, sputtering, skipping, and spray development.

The Curtiss Wright Corporation has constructed a test cell for propellers 30 ft in diameter powered by a 5,000 hp engine.

A cradle dynamometer for testing 2,000 hp engines at 3,000 rpm was reported during the year.

The points of stress concentration in new parts are studied by spraying lacquer over the parts, and then after loading the parts the cracks in the lacquer indicate the locations which require strengthening. Such procedure has been used for the crank cases of radial engines, the inertia loading of connecting rods, and the transverse strains at the edges of the wrist pin bore of aircraft pistons.

The "Sonigage" uses supersonic waves to measure metal thickness by setting up resonant waves the lengths of which are related to thickness.

Factography is the name given to the study of cleavage facets of broken specimens to determine composition.

An electronic torque meter is attached to short lengths of the shafts of a multi-engined plane to adjust the engines to do equal work and so remove the loss from the position of the rudder to care for unequal propeller thrusts.

ELECTRICAL ENGINEERING

By Harry Sohon
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SCOPE

This section aims to describe some of the new developments in electrical engineering. It covers generating equipment, apparatus, instruments, and applications. Radio is covered by a separate section. Much of the research and development work being carried on for the armed forces is of a secret nature; therefore, many items that would otherwise be included in this section had to be left out.

NEW INSTALLATIONS AND PROJECTS

The Connecticut River Power Co. of Littleton, N. H. and the New England Power Co. of Boston, have been granted a joint license by the Federal Power Commission for a new project. It is the 41,500-hp Vernon hydroelectric project on the Connecticut River between Hinsdale, N. H. and Vernon, Vt.

Denison Dam at Denison, Tex. was dedicated July 1, 1944. It is part of a $54,000,000 flood control and power project on the Red River which separates Texas and Oklahoma. Of the seven 35,000-kw. hydroelectric units planned for the location, one is already in operation.

The Virginia Electric and Power Co. plant in Chesterfield County, Va. started operating Aug. 4, 1944. Its full rating will be 50,000 kw.; 20,000 kw. is the present rating.

Fisk Station in Chicago is the first all-turbine power plant in America. Its latest addition, a 147,000-kw. turbo-generator in one of the largest single-shaft turbines in the world. The turbine operates at 1250 psi and at 925°F. This machine has more than twice the capacity of the 14 units originally planned for the station. The 147,000-kw. unit occupies space originally provided for only 15,000 kw. The generator is rated at 12,600 volts three-phase and 85 per cent power factor. It is air-cooled and has two armature windings which are connected to two separate bus systems.

The Hawaiian Electric Co. has been getting assistance in carrying its load from the Army and Navy and from the Oahu plantation since Pearl Harbor. However, with the installation of a 35,000-kw. generator it is now self-sufficient. The new unit is operated from a single boiler at a pressure of 700 psi and at 905°F. The boiler produces 390,000 pounds of steam per hour. One barrel of oil is required to generate 550 kw-hr.

California's Central Valley project is progressing toward completion. The project includes Shasta Dam and Keswick Dam on the Sacramento River, and Friant Dam on the Joaquin River. There are 415 miles of canal and four pumping stations that need 150,000 kw. The project is planned to achieve irrigation, flood control, and improved navigation on the Sacramento River. Shasta Dam on the Sacramento River is 12 miles north of Reading. It is 602 feet high and contains 6,000,000 cubic yards of concrete. It impounds 4,500,000 acre-feet of water and drains an area of 6,600 square miles.

The Shasta Dam power house is 800 feet downstream from the dam and contains two of the five 75,000-kw. generators planned for the station. Two of the units built for Shasta Dam were diverted to the Grand Coulee plant on the Columbia River in Washington but will be moved to Shasta after the war. The units at Coulee are regularly carrying 90,000-kw. loads. The generators are driven by 103,000-hp, 138, 5-rpm, Francis turbines. The head is expected to vary between 230 and 475 feet with an average value of 408 feet. The power penstocks are 15 feet in diameter, 800 feet long, of electrically welded steel varying in thickness from 1 inch to 2$\frac{1}{16}$ inches.

There are two turbine-driven 2500-kw. house generators. Three 25,000-kva, 13.8/132.8/230-kv transformers comprise each transformer bank. They are forced-oil-circulation type, water cooled, with external radiators. The output is now delivered over a single-circuit, 100-mile, wood-pole, 230-kv transmission line from Shasta plant to Oroville, Calif.

WELDING

The use of magnesium has grown tremendously during the last few years. The war needs have changed it from a laboratory curiosity to a metal of major importance in airplane construction and bomb manufacture. It has been necessary to improve the methods of processing magnesium as the use of the metal has expanded. Magnesium and aluminum can now be welded provided the welding arc is shielded with an inert gas. Both argon and helium have been found satisfactory for the shielding gas.

The gas is supplied to the arc through a hose which also carries the cable from the welding generator. The electrode is made of tungsten. The surfaces to be joined are prepared with a file, and the material is preheated to 750°F. to prevent cracking. A filler rod is used of the same composition as the parts being welded. It has been found that when the parts are butted together a slight flare on the under side permits a more satisfactory weld to be made.

The argon shielded arc can be used for welding aluminum without the use of flux. This is a particularly valuable step if there may later be difficulty in cleaning the flux from the welded parts. At the present time a helium shielded arc is used with flux for welding aluminum because automatic arc length control can be used which tends to make welds more uniform and in less time.

A new welding process has speeded up the welding of material on worn and broken parts of tractors and similar machines. If a wheel flange is broken the material is built up by the new welding process so that the part can be put back into service instead of being scrapped. The new process consists of using a mild steel electrode and a cast-iron filler rod adjacent to the arc. The arc current is increased above what would be the normal value and both the electrode and filler rod are consumed at about the same rate. The material of the electrode mixes with the filler rod to form a steel that resembles low-alloy tool steel in hardness.

Because of the increased arc-current, welding can be carried on at a much faster rate, and the use of the filler rod gives the operator complete control of the process. The deposit is controlled by feeding the filler rod. More filler rod allows the metal to chill. This process has found extensive use in repairing tractor rails, sprockets, and other similar items. An interesting sidelight on the process is that in some cases sprockets that had been repaired by the new process wore better than new sprockets that were installed at the same time that the repaired ones were mounted.

INSTRUMENTS

The oil temperature in an airplane engine is indicated by means of a resistance bulb and an indicating instrument. To make the indications independent of the bus voltage the indicator is generally of the ratio type. By supplying one coil with current that is essentially dependent only on the bus voltage and the other coil with a current that depends on both the temperature being measured and the bus voltage as well, the effect of the bus voltage can be cancelled out. The new instrument recently introduced has the usual two coil elements mounted at ninety degrees from one another and the moving element consists of a permanent magnet. This construction produces an instrument that is simple, rugged, and light. With the instrument as described there would be no torque produced if there were a power failure and the indication would be misleading. To prevent this state of affairs a small magnet is built into the instrument in such a position that it draws the pointer off scale in the event of a power failure. The presence of this additional magnet tends to introduce a slight error depending on the bus voltage but this error has been kept within satisfactory limits over the usual range of bus voltages.

A new wind tunnel was put into operation during the early part of June 1944. It is two fifths of a mile long and is provided with six six-bladed fans 40 feet in diameter which operate over a range from 50 to 288 rpm. Each fan is driven by a 57-ton 6000-hp motor.

INSULATORS

The application of glass fiber insulation is constantly expanding. At the present time Navy ships must be equipped with a fire-resistant glass fiber-reinforced plastic material for panel boards. This is, of course, to minimize the chances of a fire which might put the ship out of commission. The new type of panel has a very high resistance to the carbonizing effect of the electric arc. Therefore, if there is a flashover the surface does not carbonize and a comparatively low leakage path is not set up as is the case where other materials are used for panel boards.

The use of glass insulation includes motor and generator construction. The coils are insulated with glass and are locked in place with micarta strips. The use of glass insulation permits the machine to run at a higher temperature and, therefore, enables the construction of motors which are much smaller than would be the case otherwise. The physical dimensions may be half that of the usual machine.

The leakage across dirty insulators sometimes leads to flashover and actually may char the cross-arm or even burn off the top of a pole. During the war emergency it has been necessary to prevent interruption of service for any reason whatever, and to help achieve continuous service several companies have found it advisable to wash the outdoor insulators. One company in Chicago found that the work can be done satisfactorily with a nozzle of ⅝ to ¾ inch. The nozzle should be at least 16 feet from the insulator and the plate on which the men stand should be electrically grounded for the safety of the men. The water stream should be directed upward at an angle of about 45° and, in the case of a string of insulators, the lower ones should be washed first. The water running over the dirty insulators would increase the leakage path enough to cause a flashover but the dirty water running over clean insulators does not present the same danger. During the washing there may be a blue corona that has no ill effects, but if any yellow flame appears it is a power arc and should be extinguished by the direct application of the water stream before proceding with the washing of the other insulators in the string.

SWITCHGEAR

The need to remodel an already existing installation has led to the design of a new bus sectionalizing switch. It is rated at 3,000 amperes and is designed for 125-250 volt d-c copper bus of channel section. It is a rotating type switch that opens the circuit at each end of the blades. It is provided with a detachable handle, the same handle being used for each unit. The new design makes the switch compact enough to be placed behind existing panels without using large amounts of extra copper. This should make new installations more compact and economical with regard to copper requirements.

An air circuit-breaker rated at 500,000 kva at 7,500 volts has been designed and built for steel-mill service. The air circuit-breaker is preferred where there are repeated operations. Some steel-mill breakers operate 50,000 times a year. The new breaker is designed so that the arc that forms at the break rises to arc horns which are in series with blowout coils. When the arc has been transferred to the horns, the magnetic field produced by the blowout coils causes the arc to continue to rise into a region where refractory plates containing V-shaped slots assist in extinguishing the arc. Vents are provided so that hot gases can be disposed of as quickly as possible and thereby prevent the arc from traveling back downward into the space where it has just been extinguished. This new breaker extends the range of a complete line of breakers with capacities from 50,000 kva at 2,500 volts to 500,000 kva at 7,500 volts. The largest breaker handles currents up to 44,000 amperes.

MOBILE EQUIPMENT

A gasoline-driven 70-kw. generator mounted on a 1.5-ton motor truck supplies rural communities at 2,500 volts during storm emergencies. The truck carries a single-panel switchboard and 50 feet of cable so that it can be connected to overhead lines. The switchboard is equipped with a double throw oil switch with synchronizing lamps provided so that it can be connected to an energized line if desired. When the cable is connected to the overhead line the switch should be closed in the direction that agrees with the phase sequence of the line. By using the double-throw switch it is never necessary to interchange two of the cable leads to correct phase sequence. The truck was originally planned for storm emergencies but has been found to have many additional uses. For example, during the time required to inspect or clean a switching station the load can be carried by the truck generator and thus enable the company to carry on its work of maintenance without interrupting customer service.

In England electric power interruptions owing to recent bombing has been reduced to a minimum with the aid of transportable transformers that can be moved by rail or truck to any location where they may be needed. They are shipped filled with oil and are ready to go into operation as soon as they are connected to the lines. Transformer ratings include 10,000 kva and 7,500 kva. Voltages of 110 kv, 38.5 kv, and 6.6 kv are available. Taps are located in the middle of the transformer windings to allow for variations of ± 2 per cent and ± 5 per cent on the two higher voltage windings. Cooling is furnished by rows of tubes welded in the sides of the tanks. The location of the cooling surfaces and bushings must conform to the maneuverability of the transformer through railroad tunnels and along motor highways. It has been possible to arrange the cooling elements with relation to the windings to keep the oil temperature nearly uniform and thereby secure the lowest possible temperature in every part of the winding.

Rail power trains are being built to provide power in liberated and conquered countries until regular power stations can be put back into operation. Since most power stations are destroyed as completely as possible by the retreating forces the time required for repair may be far too long to allow efficient operation of the armies. The power trains are built in 1,000 and 5,000-kw. size. They burn low grade lignite and use a closed steam cycle with air cooled condensers. The 5,000-kw. train built by one manufacturer uses eight railway cars. The condensers alone use two cars, there being eight condensers with four blowers on each of the two cars. The 5,000-kw. generator is driven by a 3,000-rpm turbine which operates at 600 psi and 750° F. The boilers produce 80,000 pounds of steam per hour. The generator is rated at 6,300/10,900 volts, 50 cycles, 0.8 power factor, 3,000 rpm, and 6,250 kva. Power for auxiliaries is obtained from three-phase, 50-cycle, 700-kva transformers at 380/220 volts.

COMPUTING DEVICES

A new differential analyzer has recently been put into service by the General Electric Co. at Schenectady. It is approximately 32 feet long and 9 feet wide. It is supported by 14 steel pedestals. The differential analyzer enables the engineer to solve problems that hitherto were solvable only theoretically but practically were impossible of solution because of the time and labor involved. The new analyzer is similar to other analyzers of the mechanical interconnection system except for the type of integrators used. Instead of the customary torque amplifier with its constantly wearing out brake bands the new analyzer has a unique polaroid follow-up system. The integraters resemble phonograph turntables with a wheel rolling on the table rather than a needle following a groove. In order to prevent slipping the load on the wheel must be kept to a minimum and hence the invention of the torque amplifier.

The new system requires only that the wheel turn in its bearings, there being no load on the wheel at any time. The wheel shaft carries a polaroid disc which polarizes a beam of light directed parallel with the wheel shaft. The beam of light is split, part going through each of two polaroid discs on the follow-up shaft which is parallel with the wheel shaft. The two follow-up discs are placed with their axes of polarization at right angles to one another. If the axis of polarization of the wheel is halfway between the axes of the follow-up discs the light passing through the two discs will be the same. If the wheel is turned its axis will be more nearly parallel with one of the others and more light will pass through one of the polaroid discs on the follow-up shaft. The light passing through the discs on the follow-up shaft is directed to two photocells. When one cell receives more light than the other the associated control circuit tends to turn the follow-up shaft so that the light received by the two cells will be equalized.

By designing the control circuit and the driving motor it is possible to make the follow-up shaft duplicate the speed of the shaft within very close limits. Preliminary tests have shown that this type of integrater has great advantages over the old torque amplifier. Details of the driving motors and control circuits must remain secret for the present. The new analyzer is arranged so that two problems can be worked simultaneously provided they do not require more elements than the unit provides. Under these conditions the analyzer would resemble two analyzers placed end to end. As larger analyzers are built to solve more involved problems it seems only natural that they should be equipped with duplicate controls so that they can be sectionalized, permitting even more than two smaller problems to be worked at the same time.

A new a-c calculating board has been installed by the Westinghouse Electric and Manufacturing Co. at the East Pittsburgh plant. The board can handle circuits involving 18 power sources, and has two sets of controls so that it can be split and two problems worked simultaneously provided they do not require more components than the board contains. A further inovation is the fact that the scales read directly in power-system quantities, which makes it unnecessary to translate the results after a problem is solved on the board.

ELECTRONIC DEVICES

Pentode Ignitron.—Electrical engineers have been working for years on high-voltage direct-current power transmission. The factor that has held up the application of the principle is the difficulty of changing the voltage at the receiver end of the transmission line to low values for driving apparatus. The power should be changed to high voltage alternating current so that the voltage can be stepped down in transformers for customer use. The devices used to change from direct to alternating current are called inverters. The high-voltage inverter circuits use mercury vapor tubes almost exclusively, and they have proved unreliable, producing arc backs that put them out of service. In order to control or prevent these arc backs, the pentode ignitron was developed. It consists of a pool cathode, ignitor, a main anode and holding anode, and three grids. The operation of the device is conventional except for the grids. The inner grid is used to adjust the potential gradient in the tube when it is not conducting. The center grid is used to control starting time as does the grid in a thyratron. The outer grid is used to speed deionization at the end of the conducting period. The characteristics obtained make the tube very efficient and reliable as an inverter.

An electronic switch has been developed that makes possible the transmission of 30 messages in one direction for multiplex telegraphy. The switch resembles a conventional vacuum tube with a cylindrical cathode. There are thirty anodes placed in a ring around the cathode. The electrons emitted by the cathode are focused by a magnetic field in addition to an electric field so that they are collected by only one anode. When the magnetic field is moved the electron beam will move on to the next anode. A satisfactory source for the magnetic field is the stationary field winding of a two-pole induction motor. When the coils are connected to alternating current sources of the correct phase relations, a rotating field is produced which causes the electron beam to revolve and thereby switch from anode to anode. Frequencies up to 600 cycles per second have been used in the magnetic coils. Two such switches have been in experimental use for some time, one at the transmitter and the other at the receiver. The same source has been used for both magnetic coils so there has been no trouble with synchronization. Switches of this type will make multiplex telegraphy a real competitor with multi-channel carrier-current telegraphy. The main difficulty with multiplex telegraphy in the past has been maintenance of the switch which always had a mechanical contact to wear down. The new switch, of course, has no contacts to wear out.

A magnetron oscillator for wavelengths from 6 to 17 centimeters or from 5,000 to 17,000 megacycles has been designed. It is suitable for use in a research laboratory or for instructional purposes. It can be made out of readily obtainable parts by the ordinary technician employed in a school or laboratory. It has a split anode that is placed between the poles of a permanent magnet for the longer wave lengths or between the poles of a strong electromagnet for the shorter wave lengths. The filament is a piece of pure tungsten wire. A yoke placed about the anodes is brought through the glass envelope and can be formed into a closed circuit from which the generated wave is radiated. By bringing the connection through the glass, the size of the radiating loop can be adjusted for optimum conditions.

CONVERSION EQUIPMENT

The Anaconda Zinc plant at Great Falls, Mont. has been forced to step up its production because of war needs. The nine converters available were not able to produce enough power; therefore, it was decided to use rectifiers. This means that a 3,000-ampere rectifier is in parallel with each 10,000-ampere converter. While rectifiers and converters have been connected in parallel before, this is the first time such large units have been worked continuously in parallel.

The plant has eight lines of zinc cells. Each line was normally supplied by one rotary converter, the ninth converter being a spare that could be used from time to time to boost production on one of the lines. The use of the rectifiers enables production on all eight lines to be boosted at the same time. The counter emf of a cell is 2.72 volts and with 156 cells in the line the counter emf runs about 425 volts. The total resistance of the line is 0.0115 ohms. When a cell is to be cleaned it is short circuited and this means that the line voltage must be changed any time a cell is to be cleaned.

The rectifiers have phase control to give a reduction of 25 per cent in the voltage. The anode circuits contain commutating reactors to help prevent arc back. Two rectifiers operate from one transformer and, therefore, anode breakers are used so that if one rectifier suffers an arc back the other need not be shut down. The rectifier and converter are protected from damaging one another by a set of relays and interlocks. The a-c overcurrent relay of the converter will open the supply breaker in case of a flashover and the d-c breakers will open on reverse current. The rectifier cathode breaker is interlocked with the a-c overcurrent relay of the converter with which it is paralleled; therefore a converter flashover will result in the cathode breaker opening. An arc back on the rectifier trips one of the anode breakers and through an interlock trips the cathode breaker to prevent some anodes from being overloaded. The rectifier load being thrown on the converter opens the d-c breakers on the converter. It is impossible for a converter to feed into an arc back and it is impossible for the rectifier to feed into a flashover. The actual paralleling is at the cell line; therefore the leads from the rectifier to the line and from the converter to the line contains inductance which helps limit transient currents between the systems.

An automatic current regulator provided for each rectifier holds the rectifier current to any preset value. The regulator has an interesting safety feature. An interlock on the cathode breaker forces the regulator into its minimum current position when the breaker trips. This is to prevent its reopening immediately on reconnection in case the operator fails to set it back. After the rectifier is reconnected, the regulator will increase the current to the desired value, freeing the operator to give all his attention to the converter. As in the case of similar processes, interruption time must be kept to a minimum. In the case of the zinc cell, the zinc is returned to the solution during the interruption; therefore, the time wasted by an interruption is more than the actual time the line is not in operation.

PROTECTIVE SYSTEMS

In normal times protective signal systems or "burglar alarms" are used to protect banks, stores, and factories. During wartime it is important greatly to increase and extend this type of protection to include tools, blue prints, and even locations where secret processes or machines are to be found. Protective devices at the present time come into three classes—the sound-actuated system, the capacitance type, and the infra-red photoelectric system.

The sound-actuated system is used to protect vaults which may contain money, securities, furs, tools, codes, drugs, or any similar item. The system includes one or more microphones which pick up the noise made by anyone trying to break into the vault and transmit it to a central station where appropriate action is taken on receipt of the signal. This type of system is restricted to those vaults where the ground noise is less than the noise that would be made by an attack. The contents of the vault have a great influence on the design of the particular equipment. A fur vault would require different equipment from what a tool vault would require because of the acoustic properties of the vault contents.

The capacitance type of system can be used to protect safes and vaults too small for the sound-actuated system. The capacitance type is also good for protecting fences, rights of way, and similar locations where photoelectric systems would not be efficient. The capacity device consists of an electric circuit containing a capacitance which is physically two or more conductors separated by a comparatively great distance. A person approaching these conductors changes the capacitance enough to signal the central station. These devices, of course, can not differentiate between man and animal; therefore, there may be alarms produced by dogs, deer, or other animals.

The photoelectric system consists of one or more sources of light and photoelectric cells. The light is directed across the space to be protected to the cell. Anyone passing will interrupt the beam of light and thereby signal the central station. The beam of light is frequently reflected back and forth at different heights above ground to effect a nearly solid light-barrier. The distance that can be protected by one setup depends on how great a distance can be spanned by the beam of light without buildings, trees, or variations in ground level interfering. The photoelectric system is also used as a fire protection device when it is arranged so that the smoke from a fire will cut off the beam of light and signal the central station that there is a fire.

AMPLIFIER FOR BIOELECTRIC RESEARCH

The amplifier built for this purpose is intended for amplifying any electrical potentials that can be picked up in various parts of the body, and project the voltage waves on cathode-ray oscilloscopes. In the case of nerves or muscles it may be necessary to stimulate the part to obtain a response. The stimulating voltage must be eliminated from the amplifier or it might cause some of the later stages to block and thereby prevent some of the response from being observed. The amplifier should have a flat response from 0 to 14,000 cycles per second. These requirements are met in very satisfactory manner by the amplifier.

The final design contains three push-pull stages, battery operated, followed by one stage obtaining its power from a rectifier and filter. The push-pull design is used so that voltage differentials can be measured without it being necessary always to have one terminal grounded. One adjustment on the amplifier is to see that there is no output even with a comparatively large input signal applied to the two input grids in parallel. During a test the stimulating voltage is applied to both input grids, thus preventing it from passing through the amplifier and blocking one of the stages.

The tubes are balanced for cathode emission by controlling the filament temperature, and variations in amplification are equalized by means of grid potentiometers. One of the unusual departures from conventional design is the use of pentodes in the cathode circuits of the push-pull stages to obtain bias voltage for the individual stages. When an input signal must be applied from ground to one grid, the cathode pentode acts as a phase inverter to apply a signal to the other tube in the stage. The operation of the amplifier has been found very satisfactory, and considerable bioelectric research is to be expected with its use.

WAR PRODUCTION BOARD PERMITS

The WPB has permitted the manufacture of 2,000,000 electric irons for 1944. The Board believes they can be produced without interfering with the military program. The irons must be sold at prices in effect March 1942. The board has also approved the manufacture of electric water heaters and electric ranges for civilian use. The number of heaters must not exceed 37 per cent of the total made between July 1, 1940 and June 30, 1941. The Board allowed the manufacture of 21,338 ranges during the last quarter of the year.

MANUFACTURING AND GENERATION

New orders for motors and generators varied from a high of 480 per cent in May to a low of 270 per cent in February. Orders for December 1943 were an all time high of 550 per cent. In these figures, 100 per cent is the average monthly figure for 1936. One manufacturer of electronic equipment announced shipments during the first nine months of 1944 as 52 per cent greater than for the same period in 1943.

The electric output curve for 1944 remained above the curve for 1943 until October. The electric output showed a definite upward trend from the beginning of 1941 through 1943. During 1944 the general trend was level or slightly downward.

RADIO

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THE WAR CONTRIBUTION

In 1944, as in the previous year, the radio industry was almost exclusively concerned with the prosecution of the war. It furnished equipment and services which have played an important role in the areas of conflict. Manufacturing continues primarily for the armed services, and most of the activities in communications and broadcasting are an integral part of the war work at home and abroad. Radio research and development engineers have continued to devote themselves to studies of new instruments and methods for prosecuting the war and have developed many new devices that have had a profound effect upon the course of the conflict. There has been a continuing spread of the application of the principles of radio in industry.

The Board of War Communications is charged with coordinating the applications of radio to provide efficient war communications. The Board plans for future requirements and continues to serve as a control agency to utilize the services of the industry and to make those services available for the needs of the country. In 1944 the Federal Communications Commission, in addition to its regulatory duties, initiated a broad study into the needs of the various radio services and the uses now made of the well known portions of the frequency spectrum. This was done in order to provide for the rapidly expanding needs of aviation, television and frequency modulation broadcasting, and various other services.

POST-WAR PLANNING

The industry is also looking forward to the use of the higher frequency portions of the spectrum which will become available after the war restrictions have been removed. New services such as communication with buses, trucks, taxicabs, and other mobile units as well as new radio safety services for planes, railroads, etc., are being given consideration in this planning. In the super-high frequency portion of the spectrum, wide-band narrow-beam relay systems are foreseen. These will provide an adequate network for the transmission of television, broadcasting, facsimile, and message communications throughout the nation.

RADIO TECHNICAL PLANNING BOARD

The Radio Technical Planning Board, organized late in 1943 under the auspices of several of the professional engineering societies and industrial associations, was very active during 1944. In October the Board presented the results of its work to the Federal Communications Commission and made recommendations for allocation of frequencies to all radio services.

INTERDEPARTMENTAL RADIO ADVISORY COMMITTEE

The Interdepartmental Radio Advisory Committee was active during the year in the study of the uses of the radio spectrum as related to the needs of the Government. The Committee has taken under advisement the relation of these requirements to the needs of other nations. In the early fall, the Interdepartmental Radio Advisory Committee proposed an allocation of frequencies which, in its opinion, took care of the needs of government and of industry. The results of this study, together with the results of the work of the Radio Technical Planning Board, were brought together by the Federal Communications Commission in the October hearings. It is expected that soon after the end of 1944 there will be decisions from the Federal Communications Commission covering allocations for at least those parts of the spectrum which most urgently require action. Among the services particularly involved are television and frequency modulation broadcasting, aviation communication and navigation, international communication, and various emergency and miscellaneous services.

The problems of allocation become more complex as the uses increase both in type of service and units involved. This is true in spite of the fact that modern developments have greatly increased the range of the spectrum, presently and imminently useful. However, the cooperation of the engineering profession and of industry has, to a certain extent at least, simplified some, though not all, of the serious problems.

Under the auspices of the Department of State, studies have been inaugurated by joint industry and government committees looking forward to the preparation of United States proposals for the next international and inter-American radio conferences.

The Communications Act of 1934, under the provisions of which the Federal Communications Commission is empowered to act, was felt to be inadequate for wartime demands. Numerous measures, therefore, were proposed to Congress in an effort to cope with changed conditions, but none of these proposals crystallized into legislation.

FEDERAL COMMUNICATIONS COMMISSION PERSONNEL CHANGES

James Lawrence Fly, who had been Chairman of the Federal Communications Commission since Sept. 1, 1939, resigned effective No. 15, 1944, to enter private practice of law. Commander T. A. M. Craven completed his term of office June 30, 1944, and joined the Iowa Broadcasting Company as one of its executives. E. K. Jett, who prior to his recent appointment to the Commission had been its Chief Engineer for some years, was designated by the President as chairman. Mr. Jett accepted the chairmanship for only that period required for further nominations to the Commission and the appointment of another chairman. The President appointed Paul A. Porter to one of the two vacancies.

DOMESTIC BROADCASTING

The technical staff situation in this, as in other branches of radio, has not improved as the war has made heavier drafts upon the trained personnel. This situation now appears to be stabilizing even though not improving.

The Blue Network, Inc. completed its first full year of operation as an independent organization. It increased its activities and the number of its affiliates. Chester LaRoche was appointed chief executive officer of the company, and Edgar Kobak, executive vice president, resigned to become president of the Mutual Broadcasting System. Miller McClintock retired late in the year as president of Mutual.

The year 1944 also saw the first full year of operation under the new broadcasting rules of the Federal Communications Commission. In spite of the uncertainties and the greater difficulties of operation brought about by these rules, the present high level of general business activity has been accompanied by greater commercial use of broadcasting than ever before. The effect of the new rules on operation in normal times, or in periods of reduced business activity, is something which only the future can reveal.

INTERNATIONAL BROADCASTING

International broadcasting activities expanded rapidly during the year, and as of Dec. 1, 1944 there were 39 stations in the United States operating on 66 different frequencies in the band from 6000-18160 kc. and furnishing American programs to all areas of the world. Even more significant was the increased availability to the listening public of news from the war centers and battle fronts. The amount and quality of both of these services have been stepped up to a very effective point, and at the present time it is probable that the United States outranks all other countries with respect to these two services. As a corollary to this expanded international broadcast service, stations were installed and operated by the Government in foreign regions such as North Africa, Italy, France, England, and the south Pacific for the purpose of rebroadcasting these international programs as well as additional programs of primary local interest, over standard band frequencies. These programs were for the dual purpose of bringing American programs to our military personnel and to provide information to occupied and enemy countries.

The importance and effectiveness of international broadcasting during wartime has made the question of its peacetime operation important. The economic, allocation, and regulatory problems involved are of major importance.

In so far as is practicable without interfering with the war effort, plans are going forward for the development of commercial television and frequency modulation to be made available to the public on expanded and improved bases as soon as materials are made available.

POLICE AND THE RADIO

The increased tempo of the growth of the use of radio in the fields of police communication and aviation communication and navigation was even more apparent in 1944 than it previously had been. The war has intensified the problems facing the police, not only those of the large and spreading metropolitan centers, but to an even greater extent the staffs protecting groups of communities and states. Radio has been found useful in improving the efficiency of these organizations, and has increased the need for radio equipment and for frequency space many fold. Realizing this, WPB authorized the use of material for the construction of a limited quantity of police radio equipment.

RADIO IN AVIATION

No proper story of the use of radio in aviation can be told until after the war. It is evident, however, that both domestically and in the international field, aviation after the war will be of a different order of magnitude from that we have known. The number of flying units to be considered, the number of routes, extent of these routes, all affect this problem which has become increasingly complicated also by the requirements for additional communication and navigational aids in and with the individual plane. Consequently, the aviation industry and the Government itself are requiring a much greater range and amount of radio frequency space than ever before. These problems must be considered on an international basis along with the problems of many other services in view of the international character of aviation activities.

INTERNATIONAL COMMUNICATIONS

During the year, as the armies of the United Nations progressed and reconquered regions formerly held by the Axis, radio communications were re-established with astounding rapidity. This was true not only in Italy and France, but also in the islands of the Pacific. The demands of the business of war and of the News Services have been more adequately met than in any previous major conflict.

As the needs of the armed services have increased, the Army and Navy have spread with them their own radio, as well as wire communication services, until there now exists a network covering a major portion of the world, more extensive than any other radio communication service and handling more traffic than any previous system. When peace has really returned, the questions of what is to be done with these facilities and the enormous accumulation of equipment—what use is to be made of the experience acquired and of the procedures that have been established—will find their answers only in the future. The disposition of both tangibles and intangibles presents a problem that must be solved so as to protect the communications facilities of the nation and to assure sufficient materiel for our immediate needs and for our expanding future.

ELECTRONICS

Owing to the impact of war, the highly sensitive and efficient methods and tools of radio have found new applications in many fields of industry for speeding up industrial processes, improving the uniformity and quality of product, and for increasing the possibilities of manufacturing processes. Activity in this field has been stimulated, not only by the war, but also by new vistas which have been opened, to such an extent that the so-called non-radio applications of radio and electronics may become a full partner in the utilization of those methods and instrumentalities usually thought of as radio. The first National Electronics Conference was held in Chicago in October with an attendance of over 2,000. The papers presented described present activities, and the suggestions as to future possibilities stimulated greatly the interest in this field.

In general, the radio, television, and allied activities of the communications industry as a whole made great strides in the year 1944, and the industry is looking forward to even broader expansion, in scope and usefulness, in the years to come.

TECHNICAL PROGRESS IN SOUND EQUIPMENT

By M. C. Batsel

RCA Victor Division, Radio Corporation of America

THE WAR INFLUENCE

During 1944, the manufacturers of sound equipment concentrated on the development and manufacture of equipment used in the war effort. A considerable portion of the development work was for the purpose of improving the reliability of equipment when used under service conditions on board ship and in the field. The use of equipment in tropical climates has made it necessary to develop components and use materials that do not deteriorate rapidly in hot, moist climates, and that are protected against fungus growths.

SOUND AMPLIFYING EQUIPMENT

Many factories and offices have installed broadcasting systems as a means of improving employee efficiency. The services rendered by these plant broadcasting systems may include news broadcasts; talks by company managers, and Army and Navy personnel; musical programs; paging service; time signals; and emergency alarms. Because of the dissimilar conditions existing in various parts of manufacturing plants, such as varying noise levels and different kinds of work, divergent types of programs may be required. For these reasons a rather complex schedule of switching circuits and timing of programs has been found to be essential; also, recording equipment must be provided for the recording of programs of local origin so that they may rebroadcast to more than one shift.

The facilities required to perform all of these functions are similar to those of a small radio broadcasting station, operated by broadcast engineers. However, the plant broadcasting systems have been made the responsibility of those who plan the content of the broadcasts. This is usually the work of the personnel departments, which employ personnel workers rather than engineers. Definite progress has been made in the simplification of controls and equipment so they can be operated by technically inexperienced personnel.

The requirements by the military for sound equipment have continued to expand. Sound amplifying equipment using loud speakers, as well as other types of sound communication systems, has proved sufficiently reliable to be depended on for the control of many operations. Sound systems have been provided for all types of ships from submarines to aircraft carriers. Installations have been made on hospital ships to provide entertainment as well as to make it possible to communicate with all parts of the ship from a central point.

While sound systems have been utilized in schools for a number of years, there has not been adequate standardization and schools have not had suitable specifications to guide them in the purchase of equipment. As a result, the U. S. Department of Education, during the past year, undertook to establish the requirements for sound equipment in schools and to provide specifications for equipment of various types, such as a recorder for voice instruction, a radio receiver for programs to be provided by an educational broadcasting network, and a centralized system for conveying programs to class rooms and auditoriums.

SOUND MOTION PICTURE EQUIPMENT

Almost all of the 35mm. sound motion picture equipment manufactured during 1944 was made especially for the armed services. The Army and Navy have provided motion picture theatres for the entertainment and training of members of the armed services in camps throughout this country and overseas.

There has been an increase in the use of color photography with sound in photographing scenes of combat. These pictures are valuable for instruction purposes and for study of action. They often serve to reveal mistakes and incidents of importance that may otherwise be overlooked during the stress and excitement of battle. On account of the increasing utilization of sound motion picture recording equipment in the field, continuing efforts have been made to simplify the equipment and to reduce the weight and size of amplifiers and recording mechanisms used in portable types.

MILLIMETER SOUND PROJECTORS FOR THE ARMY

Sixteen millimeter sound projectors have been ordered in large quantities by the Army. This type of equipment has been used in all parts of the world to provide amusement and instruction. The equipment is used in advanced areas, out-of-doors, and in makeshift theatres of all types. In some areas the climatic conditions encountered have resulted in failure of commercial types of electrical components. As a result specifications have imposed requirements similar to those used for communication equipment, such as anti-fungus treatment and moisture-proofing of critical parts. The War Production Board, through the American Standards Association, with the cooperation of the Society of Motion Picture Engineers and manufacturers of 16mm. sound projectors, prepared a specification for a service model of a 16mm. sound motion picture projector. This specification has been accepted as a joint Army and Navy specification, subject to the approval of models that are being manufactured to determine the suitability of the specifications. The scope of this specification is indicated by the committee assignment, as described by D. R. Hyndman, engineering vice president of the Society of Motion Picture Engineers, in the April 1944 *Journal* of the society, as follows:

"Subcommittee D

"(1) Development of a Specification for a Service Model 16mm Sound Projector. The specification should include the military characteristics required, such as; interchangeability of parts, operation in a wide range of temperature and humidity; resistance to severe shock and rough transport, etc.; the overall performance characteristics required; and the methods and test of the equipment.

"(2) Development of a Specification for 16mm Portable Motion Picture Projection Screens. Special attention is to be given to optimum reflectivity, moisture resistance qualities, durability as regards folding and shipping, and screen sizes. This specification must also evaluate matte and metallic surfaces for Vectograph and color projection.

"(3) Development of a Specification for 16mm Motion Picture Visual Test Films. Special attention is to be given to calibration of the visual tests and prescribed methods of measuring their characteristics. A source of supply is to be established so that these films will be available to all manufacturers and users of 16mm motion picture equipment." Other committees have prepared specifications covering 16mm sound picture prints and 16mm laboratory practice. The industry's cooperation with government agencies resulted in a clarification of the problems to be solved if improved sound pictures on 16mm. film are to be produced. Through cooperation of all branches of the industry it was possible to provide solutions to many problems promptly and to arrange for the necessary investigations to provide information that was not available. The result has been a definite improvement in 16mm. sound and picture quality.

The extensive use of the 16mm. film for training and entertainment purposes has resulted in an increased demand for recording equipment.

BROADCAST SPEECH INPUT EQUIPMENT

Standard speech input assemblies and components continued to be supplied to the armed forces for military communication services. An increasing amount of studio and recording equipment has been supplied to government agencies concerned with the dissemination of information, entertainment, and propaganda at home, to the troops on the various fronts, and to the enemy. Such standard equipment can now be found in all parts of the world and is giving excellent service under all climatic conditions. That this equipment gives such good results without any major redesign is owing to the high standards insisted upon by the American broadcasters.

Speech input components are being called for which will operate within closer tolerances for turntable speed variations and produce less distortion than has been required for broadcasting applications. Experience gained through these developments will probably result in significant improvement of recorded programs in the post-war period. The extensive use of records for shipment overseas and for shortwave broadcasting has stimulated the development of improved transcription recording equipment.

NAVAL ARCHITECTURE AND MARINE ENGINEERING

By James L. Bates

Technical Division, United States Maritime Commission

GENERAL

The heavy demands of the war effort kept the merchant shipyards at a high level of production throughout 1944. Special emphasis in the last half of the year was put on the construction of combat loaded cargo and transport vessels to fill urgent military needs.

The building of the Liberty type ship was sharply reduced to make ship ways available for the Victory ships and for the special vessels for military use. These changes in types resulted in reducing somewhat the production figures in both numbers and deadweight tonnage below those of 1943. These vessels require more man-hours to build than the Liberty ships, and the yards building them have not as yet reached peak production.

Post-war needs are being given active consideration in the switch to Victory ships, and by the letting of a number of contracts for passenger and cargo vessels for commercial operation. The construction of the long range C type cargo ships and large ankers continued at a high level hroughout the year.

The wood construction programs ere completed, and except for barges ntended for military use the concrete rograms are also near completion.

WELDING IN SHIPBUILDING

The extended use of welding in the onstruction of merchant ships during he war emergency period is credited s being a very important factor, if not he most important one in the amazng record of ships and tonnage prouced.

The early groups of C type vessels ere constructed in the old line shipards, which were equipped mainly for ivetting. These ships had only the ecks, internal structure, side frames o shell and longitudinals to deck and ottom welded. The shell and double ottoms were rivetted. However, as ew shipyards came into being to andle the increased need for these essels, a number of them were laid ut and equipped for welding exclu-ively.

The inception of the emergency hip construction programs and their apid expansion to suit the war conitions, required a large group of new ards to handle the work. An early ecision was made to adopt welding o as great an extent as possible, on he premise that outfitting the yards ould be simpler, and greater speed f construction could be attained. oth these assumptions have been nore than realized. Some leeway was llowed the yards as to the use of ivetting, but most yards adhered to elding exclusively or used rivetting n the frame connections to the shell nly. One yard rivetted the shell eams, but welded all other structure.

The new shipyards were laid out ith plenty of space for assembly latens and heavy lift crane facilities o handle the large sub-assemblies. hus, many men could be employed t the same time in making up the ub-assemblies, using the building way s an assembly point. The ability to rowd a large number of man-hours nto a few days as measured by the alendar, by the use of welding, made it possible to meet and exceed the production schedules.

The art of welding has been advanced considerably through the experience gained in merchant ship construction. The importance of proper welding sequence and good workmanship in the assemblying of a large all welded hull has been forcibly brought out by a number of serious fractures which occurred under service conditions. Many factors are not known about the behavior of a large welded ship under severe service conditions, such as the effect of the rigidity of the hull and the effect of residual stress on stress distribution. The effect of the rapidity of the loading of the structure on the behavior, the effect of low temperatures on notch sensitivity of steel, and other problems both metallurgical and mechanical in character are still not fully understood.

In spite of the rapid growth of the application of welding to shipbuilding, which brought with it the necessity of using welding operators with but little training and no experience, the all welded ship has made an enviable record. The small ships have been free from any serious trouble, probably because of the relatively thin materials used. The large welded merchant ships suffered fractures in structure which could be called serious to less than 5 per cent of those built. The service conditions under which the ships were operated are considered to be much more severe than those encountered in normal peacetime. The northern route to Russia in the North Atlantic under convoy conditions, which did not permit of maneuvering or the reducing of speed in stormy weather, together with freezing temperatures, was especially severe. A large percentage of the fractures occurred on those waters, and also on the North Pacific routes to Alaska, the Aleutians, and to Russia.

It has been found that great care must be exercised in the design of details to avoid sudden changes in section, or sharp corners which would create a notch effect and be a potential crack starter. Also under certain conditions, cracks in the deck plating at hatch corners, which are minor and common on rivetted ships, have in welded ships propagated rapidly to a complete failure of the deck. This danger of crack propagation has led to the introduction of crack arrestors on the upper deck of Liberty ships.

A rivetted angle has been substituted for the welded joint between the deck stringers and shell plating, and a slot introduced in the deck each side of the hatches extending fore and aft from hatches numbers two to four inclusive on the weather deck. These slots are covered by double rivetted straps.

WELDING RESEARCH

The National Research Council had taken over all those welding research problems, early in the war period, the solution of which might be of aid in the war effort. The facilities of the various universities and testing agencies were fully utilized in respect to both personnel and equipment.

Research continues on full size welded sub-assemblies of Liberty ships and tankers. Several additional supplementary investigations have been added to this program, the details of which have been given a restrictive classification, and can not be published.

A number of universities are conducting research programs of fundamental character to shed further light on weld stresses, notch sensitivity, behavior of steel under multiaxial stress, and other vital problems connected with welding.

The United States Maritime Commission conducted a hog-sag test in a Liberty ship which has been in service for some time. Strain gage readings were taken with the ship as constructed, and also with four different type hatch corner details made at hatch number three on the weather deck. The strain gage readings are being analyzed, and it is hoped much valuable information will be obtained from the experiment.

Preliminary experiments were made on a method of stress relieving welds by means of post heating of adjacent structure. The value of such stress relieving to a welded hull if successfully accomplished, must of necessity depend on service records of ships on which the stress relieving has been applied.

PROPELLING MACHINERY

The additional turbines which were made available owing to increased facilities for construction of turbines and for gear cutting have made possible the powering of the Victory ships. The service records of these vessels, though necessarily short at this time, are very encouraging and indicate that continued satisfactory economy and reliable operation can be expected.

The acceptance of some sacrifice in economy in favor of increased production of these new turbines, has, it is felt, been a wise decision. The fuel consumption per SHP per hour for the reciprocating engines in the Liberty ships is 1.3 to 1.4 pounds. For the lower power standard turbines .60 to .63, and in the higher powers .57 to .59 pounds. In comparison the 6,000 SHP turbines installed in the AP2 Victory type ships average .66 pounds. Some of this added fuel consumption can be traced to the use of only one point of bleeding and one feed heater, and to the fact that a large number of steam auxiliaries are installed. The long-range vessels in which the standard turbines have been installed have practically all the auxiliaries motor driven.

A slight sacrifice in the efficiency of the boilers was also accepted in order to gain standardized units and conserve some materials. The same steam conditions were maintained on the Victorys as on the long-range types. Some of the major auxiliaries which are motor driven on the long-range ships and steam driven on the Victory ships are the forced draft fans, feed pumps, and fuel oil pumps. It is thought that the change from motor driven to steam forced draft fans is one that might be adopted as standard practice for future work, since much more satisfactory speed control has been obtained with the steam units.

The Skinner Uniflow engines installed on aircraft carriers built by the Maritime Commission for the Navy bore out earlier reports by maintaining excellent service records, with reasonable economy of operation.

Many of the minor type of merchant vessels built by the Commission have been powered with Diesel engines. Those operated by private concerns in the United States are, with few exceptions, giving satisfactory service. No reports are available on those operated by the Navy or under lend-lease agreements.

The P2 type vessels presently being constructed on the West Coast are powered by turbo-electric machinery. The steam conditions are higher than that used heretofore in merchant work, being 815° F. total temperature and 580# gage at the throttle. As noted under the section entitled "Trends," higher steam conditions in both temperatures and pressures may be realized on vessels to be constructed in the near future.

CARGO HANDLING

Much study has been given to the subject of efficient cargo handling for the purpose of reducing the time required to load and discharge cargo in port. These studies have resulted in the authorization for a trial installation of the Harrison cargo gear on a Victory ship. This gear consists of crane runways on which crane carriages travel transversely from sides of ship to the hatches and *vice versa.*

Further studies are under way to simplify the handling of cargo below decks from the hatch square to the ends and side spaces of the holds. This operation is the most time-consuming in the cargo handling cycle. The studies include the possible use of mechanical means of handling the cargo below decks as well as rearrangement and redesign of the hatches to bring a higher percentage of the hold spaces within reach of the hatch squares than in present designs.

Electrically driven cargo winches with unit motors are now available and have been adopted. The high hook speed of the cargo hoists is being maintained, and special attention is being given to satisfactory controls of these winches from safety and economic standpoints.

The coverings of hatches are being given much study in order to improve the removal and placing of hatch covers and stowing them during loading and unloading operations.

PRODUCTION

The merchant shipyards have been kept at high production levels throughout 1944 and in numbers and deadweight tonnage will approach the record output of 1943. The 1944 total to Dec. 1 includes 676 Liberty type ships, 91 Victory ships, 122 C type, 197 standard tankers, 318 vessels for military use and 128 miscellaneous vessels, a total of 1,532 vessels of 14,986,538 deadweight tons.

From Jan. 1, 1942, to Dec. 1, 1944, there was delivered into service a grand total of some 4,174 vessels of 42,314,896 tons deadweight.

The conversion of a number of the larger yards in 1944 from the quantity building of Liberty ships, to the quality building of Victory and other type ships naturally resulted in lower production figures.

It is expected that the time necessary to construct the Victory ships will be greater than that taken in building the Liberty ships when the yards reach full production.

STEEL VESSELS UNDER CONSTRUCTION

As in the last two years, the bulk of the construction in terms of number of ships and tonnage was of the Liberty ships. These vessels, as well as the C types, are well known and need no further comment. However, the Liberty ship program was reduced considerably in 1944 to make way for the Victory type vessels, and specialized ships for military use as described elsewhere.

The Victory ships are being constructed under some three design designations, two of which differ essentially only in the type of main propulsion machinery. The other type is being constructed for military transport service. These vessels have slightly more length and beam than the Liberty ships, but have considerably more power to provide a speed in excess of 15 knots. They are of all welded construction except for the connection between the upper deck and side shell, which is rivetted. The deadweight and bale capacities of the cargo types are essentially the same as the Liberty ships.

Emphasis has been placed on the production of the long range type of vessel converted to combat service, both cargo and transport. Construction of other vessels to hospital ships, tenders, and supply ships is also under way, with many units completed during the year.

Plans are in the process of development to complete the P2 type vessel now building as transports and eventually as passenger vessels for peacetime service. Other Commission type vessels will also be converted to the needs of particular peacetime trades, and active work has started in regard to plan and specification development.

Contracts have been awarded for the building of a number of Liberty type ships as colliers. It was not expected that any deliveries of these vessels would be made in 1944, but construction is well under way.

The re-design of two types of vessels to refrigerated ships is under way, and a number were delivered during 1944.

The tanker program is well advanced, and several of the smaller types have been adopted for Naval use and for British operation under lend lease agreements.

MILITARY TYPES

Emphasis is being placed on the production of combat loaded type cargo and transport vessels for naval use. These vessels are being built from special designs and from adaptations of the long range C type vessels in the building yards to these services.

The Victory type ship is also being utilized for transport service, the necessary changes being made while the vessels are under construction.

The C4 type ships are being constructed as transports for military use, and the schedules for delivery are being maintained.

The last of the P2 type vessels building as transports on the East Coast are expected to be delivered before the year's end. A number of the same type building on the West Coast have been delivered to date.

The program for the construction of aircraft carriers by Maritime Commission yards has been completed.

The program of landing craft and escort vessels ,was completed by the end of the year, in so far as merchant shipyards were concerned.

MISCELLANEOUS TYPES UNDER CONSTRUCTION

The tug construction programs have all been completed. Construction on the 4,000 tons deadweight vessels designed for combined use by Navy and Army continues at a rapid rate. Contracts have been let for the construction of several of this type designed for the carriage of complete refrigerated cargoes, and some deliveries were made by the end of the year.

A number of 300-foot twin screw motor driven vessels for coastwise carriage of lumber are under construction. The Diesels are to be of the direct reversible type, connected for direct drive to independent propellers.

The construction of the small coastal tankers and freighters continues, for use in merchant and military service in the United States. These programs are more than 50 per cent completed.

Two derrick barges of 150 tons lifting capacity are under contract, and were scheduled for delivery by the end of 1944. Also, a number of car floats are being constructed for Navy use.

TRENDS

Construction during the past year and the schedule for the coming year indicate that the needs for the postwar merchant marine have been given such consideration as the war emergency permitted.

Owing to the extensive use of steam turbines in recent construction of vessels capable of entering the competitive trade, the post-war fleet of the United States will be predominantly turbine propelled. The trend in new British construction is also toward turbines, but the steam reciprocating engine still powers the bulk of that country's merchant fleet, with Diesel drive being next in numbers used.

The bulk of the large tankers constructed have turbo-electric drive. This is also true of the P2 type vessels building as troop transports on the West Coast. Resort to this type of propulsion was dictated by bottlenecks in production of reduction gears and does not constitute a trend for future construction.

Temperatures and pressures of the steam turbine installations have been kept constant during the past several years except in the case of the P2 turbo-electric installation. Higher pressures and temperatures were used in the propulsion of these vessels in order to realize higher efficiency in the steam plant to make up for the losses in using the electric drive. Increased pressures and temperatures will, no doubt, be the trend in the marine steam turbine in the future.

An experimental installation of a gas turbine as a prime mover in a Maritime Commission vessel is expected to be made during the coming year. Also an installation of a Diesel engine of about 6,000 SHP. will be made in the near future.

Some vessels have already been authorized to be constructed for passenger and cargo use in the merchant trade. These vessels, as well as future vessels, will be designed and equipped to meet the needs of the particular trades in which they will be used. All the desirable advances made in propulsion, in passenger and crew accommodations including air conditioning, and in cargo handling will be incorporated. This should result in giving the United States a merchant fleet capable of meeting competitive trade and at the same time giving service to its patrons equal to the best.

PERIODICAL PUBLICATIONS

Civil Engineering
33 West 39th Street, New York City.
Construction Methods and Equipment
330 West 42nd Street, New York City.
Contractors and Engineers Monthly
470 Fourth Ave., New York City.
Diesel Power
192 Lexington Ave., New York City.
Electrical Communication
67 Broad Street, New York City.
Electrical Engineering
29 West 39th Street, New York City.
Electrical World
330 West 42nd Street, New York City.
Electronics
330 West 42nd Street, New York City.
Engineering and Mining Journal
330 West 42nd Street, New York City.
Engineering News-Record
330 West 42nd Street, New York City.
General Electric Review
General Electric Company, Schenectady, N. Y.
Journal of Engineering Education
Prince and Lemon St., Lancaster, Pa.
Mechanical Engineering
29 West 39th Street, New York City.
Mining and Metallurgy
29 W. 39th Street, New York City.
Motor
572 Madison Ave., New York City.
National Engineer
176 West Adams Street, Chicago.
Popular Mechanics Magazine
200 East Ontario Street, Chicago.

Popular Science Monthly
353 Fourth Ave., New York City.

Power Plant Engineering
53 West Jackson Boulevard, Chicago.

Professional Engineer
8 South Michigan Ave., Chicago.

Radio Communications
19 East 47th Street, New York City.

Radio-Television Journal and Talking Machine World
1270 Sixth Ave., New York City.

Railway Mechanical Engineer
30 Church Street, New York City.

S.A.E. (Journal of the Society of Automotive Engineers)
29 West 39th Street, New York City.

Tech Engineering News
Massachusetts Institute of Technology, Cambridge, Mass.

Technology Review
Massachusetts Institute of Technology, Cambridge, Mass.

Universal Engineer
150 Nassau Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

Allied Building Metal Industries, 101 Park Ave., New York City.

American Association of Engineers, 8 S. Michigan Ave., Chicago, Ill.

American Ceramic Society, 2525 N. High St., Columbus, Ohio.

American Concrete Institute, 408 New Center Bldg., Detroit, Mich.

American Construction Council, 154 Nassau St., New York City.

American Foundrymen's Assn., 222 W. Adams St., Chicago, Ill.

American Institute of Chemical Engineers, 50 E. 41st St., New York City.

American Institute of Consulting Engineers, 75 West St., New York City.

American Institute of Electrical Engineers, 33 West 39th Street, New York City.

American Institute of Mining and Metallurgical Engineers, 29 W. 39th St., New York City.

American Iron and Steel Institute, 350 Fifth Ave., New York City.

American Petroleum Institute, 50 W. 50th St., New York City.

American Public Works, Assn., 1313 East 60th St., Chicago.

American Radio Relay League, 38 La Salle Road, West Hartford, Conn.

American Railway Engineering Assn., 59 E. Van Buren St., Chicago, Ill.

American Road Buildings Assn., 1319 F St., N.W., Washington, D. C.

American Society of Civil Engineers, 33 W. 39th St., New York City.

American Society of Heating and Ventilating Engineers, 51 Madison Ave., New York City.

American Society of Mechanical Engineers, 29 W. 39th St., New York City.

American Society for Metals, 7301 Euclid Ave., Cleveland, Ohio.

American Society of Naval Engineers, Navy Bldg., Constitution Ave., N.W., Washington, D. C.

American Society of Refrigerating Engineers, 50 W. 40th St., New York City.

American Society of Safety Engineers, 60 E. 42nd St., New York City.

American Society for Testing Materials, 260 S. Broad St., Philadelphia, Pa.

American Standards Assn., 29 W. 39th St., New York City.

American Statistical Assn., 1603 K St., N.W., Washington, D. C.

American Water Works Assn., 500 Fifth Ave., New York City.

American Welding Society, 29 West 39th Street, New York City.

Engineering Foundation, The, 29 W. 39th St., New York City.

Highway Research Board of the National Research Council, 2101 Constitution Ave., N.W., Washington, D. C.

Illuminating Engineering Society, 51 Madison Ave., New York City.

Institute of the Aeronautical Sciences, Inc., 30 Rockefeller Plaza, New York City.

Institute of Radio Engineers, Inc., 330 W. 42nd St., New York City.

National Aeronautic Assn., 1025 Connecticut Ave., Washington, D. C.

National Board of Fire Underwriters, 85 John St., New York City.

National Fire Protection Assn., 60 Batterymarch St., Boston, Mass.

National Research Council, 2101 Constitution Ave., Washington, D. C.

National Slate Assn., 644 Drexel Bldg., Philadelphia, Pa.

New York Electrical Society, 29 W. 39th St., New York City.

Radio Club of America, 11 W. 42nd St., New York City.

Radio Manufacturers Association, 1317 F St., N.W., Washington, D. C.

Society of Automotive Engineers, Inc., 29 W. 39th St., New York City.

Society of Motion Picture Engineers Inc., The, Hotel Pennsylvania, New York City.

Society of Naval Architects and Marine Engineers, 29 W. 39th St., New York City.

Society for Promotion of Engineering Education, Univ. of Pittsburgh, Pittsburgh, Pa.

Western Society of Engineers, 231 S. La Salle St., Chicago, Ill.

DIVISION XX

GEOPHYSICAL SCIENCES

EARTHQUAKES AND VOLCANOES

By Frank Neumann
United States Coast and Geodetic Survey

GENERAL

Normal seismological and volcanological activities in the United States continued throughout the year but in many cases established routine gave way to projects connected with the war effort. This followed the course taken by all other active geophysical organizations.

EARTHQUAKES IN FOREIGN AREAS

The normal annual frequency of strong shocks throughout the world was maintained according to seismographic records obtained in the Western Hemisphere. No earthquake up to Nov. 30 was of major type but two were of outstanding importance. On Jan. 15, at San Juan in western Argentina, 3,500 persons were killed, 13,000 injured, and 75,000 left homeless. Damage was estimated at $100,000,000. On Feb. 1 an earthquake in Turkey killed nearly 1,000 persons in Gerede and surrounding towns. Eighty per cent of the houses in Gerede were destroyed. In Cotopai Province, Ecuador, the village of Postocalle was reported destroyed on Sept. 15. In Turkey, on Oct. 6, the town of Aivalik was reported destroyed and 50 persons killed at Izmir. Much damage was done in the surrounding area. One of the most severe earthquakes in recent years occurred on December 7 in the vicinity of Japan. No details were available aside from the press reports which indicated that considerable damage was done. Strong shocks were felt in Colombia on April 12 and May 9, the latter being felt throughout the country. Four shocks of more local character were also reported. A strong shock was felt at Whitehorse, Canada on Feb. 3, and lighter ones at Renfrew and Timiskaming, Canada on Jan. 22 and Feb. 3, respectively. On Sept. 5 a strong shock originating in the St. Lawrence River valley caused nearly $1,000,000 damage at Cornwall, Ontario, and about an equal amount on the United States side of the river. Two shocks were located near Japan from instrumental data. They did not prove to be destructive.

EARTHQUAKES IN THE UNITED STATES

The shock of Sept. 5 in the St. Lawrence River valley caused damage estimated between $1,000,000 and $2,000,000 in the region of Massena, N. Y. and Cornwall, Canada. It was felt in many adjoining states and over a large part of Canada. On June 18 a moderate shock caused slight damage in the Los Angeles, Calif. area. Light shocks were felt on March 15 in Monterey Bay, California; on July 12 in Idaho, Montana, Washington, and Oregon; on Sept. 8 in Colorado; and on Sept. 25 in parts of southern Illinois, Indiana, and eastern Missouri. The remaining activity occurred in recognized seismic areas and was generally of minor character. Over the country as a whole and in outlying territories, seismic activity was below normal.

SEISMOLOGICAL STATIONS

There are 42 active seismological stations in the United States. Operations were resumed at stations in Butte, Mont. and Pittsburgh, Penn., while at Burlington, Vt. and Lincoln, Neb., they were temporarily suspended. New stations are contemplated at a relatively large number of places after the war. Those in outlying territories and in South America sponsored by American scientific institutions all remained active.

In the United States most seismological stations are either sponsored or assisted by organizations which function as central stations in the servicing of equipment and the analysis of records. The principal organizations are the United States Coast and Geodetic Survey with seismological offices in Washington and San Francisco; the Jesuit Seismological Association with a central office in St. Louis, Missouri; the University of California at Berkeley, Calif.; the California Institute of Technology at Pasadena; and the Northeastern Seismological Association with headquarters at Weston, Mass. The activities of three of them are primarily regional in character.

There are two stations in Alaska, two in Hawaii, plus several auxiliaries for recording volcanic shocks, and one each in Puerto Rico and the Panama Canal Zone. Close cooperation is maintained with two active stations in Greenland, and one each in Bermuda, Peru, and Chile.

Reports were issued during the year by the new Chinese seismological station at Pehpei which was established after the station at Chiufeng was occupied by enemy forces. The new seismograph was built at the station.

ANALYSIS OF RECORDS

The five organizations previously mentioned cooperate closely in exchanging instrumental data and locating earthquakes. Data on strong shocks are telegraphed from key stations in the Western Hemisphere. Immediate information on the location of shocks obtained from these data is released through *Science Service* which sponsors the project. Although information from many foreign countries is lacking, the routine location of earthquakes from seismographic data and the publication of results continues, but at a retarded pace.

RESEARCH

In research, emphasis was primarily on seismic activity in the Western Hemisphere, particularly South America. Deep focus earthquakes in the latter area are of special significance in investigating earth structure and the mechanics of earthquake movements including their origin. Nearly all seismographic records of the destructive Argentine earthquake of Jan. 15 were loaned to the National University of that country for special study; while those of the St. Lawrence River shock of Sept. 5 were sent to the Dominion Observatory at Ottawa, Canada. Seismograph surveys to study shocks induced by the impounding and release of great masses of water continued at a number of dams in the western mountain region.

SPECIAL INVESTIGATIONS IN SEISMIC AREAS

During the year, 24 records were obtained on strong-motion seismographs of the United States Coast and Geodetic Survey for three different shocks. None of them was of very destructive type. That of June 18 in southern California was the most important. There are 49 strong-motion instruments in California, four each in Nevada and Montana, and one each in Utah and the Panama Canal Zone. Two instruments were transferred to Santiago, Chile and Lima, Peru to obtain data desired by engineers interested in the design of structures in earthquake regions. Officials of the countries concerned are cooperating actively in this program. A representative of the United States Coast and Geodetic Survey visited ten South and Central American countries in 1944 to discuss various phases of the earthquake problem with local seismologists and engineers, and to encourage greater international cooperation in the exchange of seismological data.

In the United States, vibrations

were made on a number of structures as an integral part of the engineering-seismological program. Vibration work as related to other projects is discussed later in this article.

The earthquake information services designed to collect general information on the intensity and extent of earthquakes continued to function satisfactorily. This activity of the United States Coast and Geodetic Survey is supplemented by the regional investigations conducted by other seismological organizations and by the work of state collaborators in 12 Mountain and Pacific Coast states. Various government organizations, engineering societies, insurance companies, public utility companies and other groups participate in the program.

Research in the application of strong-motion seismograph data to engineering problems has been retarded by the war. The use of the torsion pendulum as a device for reducing complex earthquake motions to equivalent static forces for the use of the engineer has been demonstrated, but little progress has been made in applying this important tool to the data available.

VIBRATION PROBLEMS

On a number of important engineering projects connected with the war effort it was necessary to make precise measurements of the nature and magnitude of building and ground vibrations induced by blasting, the pounding of forging hammers and other heavy machinery, traffic and other disturbing elements. In some cases the effect of vibrations on precision machinery was of primary concern while in others the safety of structures was involved. Seismological agencies were called upon to measure these vibrations with equipment designed primarily for earthquake investigation. Vibration meters designed to measure building vibrations were found satisfactory in many cases especially where the actual movements resulting from high frequency vibrations were desired. For hammer-blow vibrations and blasting, the equipment was satisfactory until the lower fringe of audio frequencies was reached. Beyond that the magnifications and open time scales required could no longer be met. In some of the cases investigated, the safety of dams was involved.

While certain basic information was obtained, the seismological equipment was not generally suited to the conditions imposed on them. More compact instruments operating over a wider range of frequencies are a pressing need especially where maximum acceleration is desired. Vibration observation differs from standard seismological procedure in that emphasis is placed wholly on precision in measuring the amplitude of the motions, whereas in standard seismological work, precise time control is the primary need.

RELATED MEASUREMENTS

Slow movements of the ground which are difficult to detect are investigated because of their possible bearing on the building up of stresses which may presage seismic activity. As an aid in such investigation, three tiltmeters are kept in operation at Berkeley, Calif. and one at Long Beach, Calif. At the latter place attempts are being made to correlate tiltmeter readings with changes in elevation indicated by the re-running of precise level lines by local engineers.

Tide gages installed in Central and South America by the Coast and Geodetic Survey with the cooperation of the governments concerned continued to give data bearing on vertical crustal movements. No seismic sea waves were recorded on Survey gages during the year.

At several stations of the U. S. Geological Survey where automatic records are made of the water levels of deep wells, reports are made of changes due to the passing of ground waves from nearby and distant earthquakes. In certain localities where the subterranean conditions are right, the wells are quite sensitive to such waves.

No geodetic surveys of special seismological interest were made during the year.

There was renewed interest in the relation between microseismic and meteorological activity. Microseisms are minute ground waves or "ripples" which are continually being recorded on sensitive seismographs. They are believed to be of meteorological origin and to radiate from areas of low barometric pressure. Impetus has been given current investigations by the development, at St. Louis University (Missouri), of a method of determining the direction of their origin. The mechanism underlying the formation of microseismic waves is not clear.

SEISMOLOGICAL ORGANIZATIONS AND PUBLICATIONS

In the United States all seismological organizations have remained active. The Seismological Society of America and its Eastern Section have issued their usual bulletins. The American Geophysical Union which includes a Section of Seismology is planning to issue periodical bulletins in place of the annual *Transactions* containing only papers presented at meetings of the Union. Cooperation with foreign geophysicists is maintained through affiliation of the Union with the International Union of Geodesy and Geophysics which has continued to function to a limited degree. The International Seismological Summary, containing instrumental results from seismological stations throughout the world, is supported to a considerable extent by the International Union and continues to issue its quarterly reports from Oxford University, England.

In the United States all seismological organizations operating under Federal, state, and private appropriations have continued publication of results under difficulties because seismological as well as other geophysical organizations have contributed much of their time to special war projects.

VOLCANOES

In February a volcano on Mount Goropu, 138 miles east of Port Moresby, New Guinea was reported to be more active than for years. On March 19, Vesuvius began erupting, and lava flows threatened the destruction of several towns. Some local volcanologists regarded it the worst since 1906.

On June 10, Mt. Cleveland on Chuginadak Island in the eastern Aleutians was reported in full eruption. One person was killed by falling rock.

Paricutin Volcano in Mexico, which emerged unexpectedly from a plowed field in February 1943, continued to hold the chief interest of volcanologists and geologists of the Western Hemisphere. During the year eruptive action diminished at times to a degree where it was possible to climb the cone and inspect the crater which is now about 1,500 feet high. Reports indicate that lava has covered the town of San Juan about two and one-half miles north of the crater. Dust still continues to be a menace and has destroyed vegetation within a radius of several miles. A group of American geologists and geophysicists planned to organize a scientific expedition to work with Mexican scientists in making the most comprehensive investigation of the volcano thus far undertaken.

ECONOMIC GEOGRAPHY

By Samuel N. Dicken
Associate Professor, University of Minnesota

GENERAL PRODUCTION FACTORS

The general trend of studies in economic geography in 1944 showed increasing emphasis on immediate, timely questions and the problems of the post-war world. The literature is full of recent changes in production in all parts of the world, most of which are related to the war, directly or indirectly. In the battlegrounds of

Europe and Asia the changes have been most rapid and most profound. Here it is surprising that production has not been more disrupted. Production of cereals and potatoes in Germany, for example, has remained nearly normal, has in fact increased in some of the countries occupied by Germany, but the indirect changes due to the war, or at least accompanying it, are worldwide.

The loss of markets, or the acquisition of new ones, the lack of shipping, or in some cases more shipping on certain trade routes, have affected production profoundly, and it is apparent that not all of the effects are temporary. In those areas where the fate of a productive enterprise was hanging in the balance before the war the results were most immediate and perhaps the most permanent. For example, Kathryn Wylie reports in "The Agriculture of Nicaragua" (*For. Agric.,* Sept., 1944) that the banana regions of the east coast of that country are so full of disease that the lack of shipping was a mere *coup de grace* and, consequently, the plantations may not be restored in this area at all after the war.

CONSUMPTION FACTORS

Hand in hand with changes in production are the important changes in consumption. The present large scale use of wheat in the United States for livestock feed and for the manufacture of industrial alcohol, in the synthetic rubber program, may not cease entirely with the war. At any rate the international wheat situation is very different from that of a few years ago. ("World Wheat Survey and Outlook," *Food Res. Inst., Wheat Studies,* 20, no. 5, May, 1944.) So is the outlook for many other commodities which can be produced in many lands—sugar, rice, meat, wool, and cotton to mention just a few.

POST-WAR PROSPECTS

The questions, however, which most of the economic geographers, economists, and statesmen are asking is: What will be the pattern of trade in the post-war world? What will be the restrictions in terms of tariffs and cartels? Will there be many subsidies and trade agreements? Upon these questions the future patterns of production depend almost as much as they depend on the natural resources of the various countries. It seems likely that the greatly increased importance of government control, made necessary by the war, will continue in force after the war, perhaps for many years (Leslie A. Wheeler, "Trends in Foreign Agricultural Policies," *For. Agric.,* Sept., 1944). Although many studies in economic geography are by their very nature local and slightly out-of-date before they are printed, the effort is made to look into the future and forecast some of the changes in the various regions and in many commodities.

NORTH AMERICA

General.—In North America the studies in economic geography are concerned with scarcities, with modifications in the continental production caused by the war, and with the place of North America in the post-war world. W. W. Atwood considers some of the scarcities, including rubber, cinchona, balsa, mahogany, and manila fiber, with special reference to increasing the production of these commodities in Latin America, in "Meeting an Emergency in Trade" (*Econ. Geog.,* Jan., 1944) and in a later article "Graphic Summary of Trade between the United States and the Other Americas" (*Econ. Geog.,* Apr., 1944), in which he catalogs the principal imports and exports of the United States to and from the other American countries.

Oil.—Most of the articles which deal primarily with local regional studies show, nevertheless, the influence of the times and take into account the post-war development in the region. Trevor Lloyd's, "Oil in the Mackenzie Valley" (*Geog. Rev.,* Apr., 1944), while concerned primarily with the occurrence and transportation of oil in northwest Canada, points out that the development was stimulated by the war and that the peacetime demands for oil are quite a different atter from that of a few years ago. he rapid consumption of oil by the achines of war has resulted in a wide iscussion of the supply of petroleum the post-war period and evaluation resources not considered developble hitherto. A review of the oil tuation with many citations is found "Oil After the War: A Review" y Walter H. Voskuil (*Geog. Rev.*, ct., 1944).

Agriculture.—Other local studies nclude Helene Hatcher's "Dairying the South" (*Econ. Geog.*, Jan., 944), with a discussion of milk prouction in relation to the acreage of rop land, but statistics of recent ate which might have shown warme trends are not presented. Loyal urand's study "The West Shawana pland of Wisconsin" (*Ann. Assoc. m. Geog.*, Sept., 1944) cautions gainst hurried changes in land policy nd long time planning on account of ne war demands, especially on the orthern fringe of agriculture.

Coal.—In the same number of the *nnals* Raymond E. Murphy analyzes oal production in the Appalachian ituminous fields and presents a deailed map showing the production of oal per square mile, pointing out ome of the consequences of immient exhaustion of the coal in certain reas.

Tropical Products.—It is obvious rom a study of the geography and esources of North America that the nited States and Canada lack tropal products. Furthermore, these roducts are not supplied in sufficient uantities by Latin America, in spite f the large areas of tropical land, argely because the people of Latin merica live mostly in the highlands as in Mexico) or the temperate belt as in Argentina), and have been only ightly interested in the development tropical products, such as rubber, acao, etc. However, they have done ell, too well in some cases, in the roduction of coffee in the highlands.

LATIN AMERICA

If Latin America is to modify her roductive economy in order to supply orth America with more tropical products, as suggested above, it is necessary that there be compensation. Latin America has supplied the United States with increasing amounts of rubber (about 70,000 tons in 1944), fibers, drugs, wood, vegetable oils, as well as many minerals. Ernest S. Hediger suggests further possibilities in "Agricultural Cooperation in the Americas" (*For. Pol. Repts.*, 19, 1943). Latin America needs coal, automobiles, airplanes, machinery, rather than the agricultural products of North America.

A mere list of the titles of recent studies indicates the timeliness of recent studies as well as the urgency of production changes. Argentina's adjustment to wartime conditions included increased trade with South Africa, from which Argentina now obtains coal as well as increased trade with other Latin American countries. William E. Rudolph in "Agricultural Possibilities in Northwestern Venezuela" (*Geog. Rev.*, Jan., 1944) paints a rather pessimistic picture for crop production in a country which has depended so much on petroleum for the national income. In the same number of the *Review* the McBrides (G. M. and M. A.) discuss a new entrance to Amazonia *via* the Peruvian Andes, opening up a part of this vast tropical lowland which could supply the world with rubber, cacao, and many other products of the rain-forest climate. A comprehensive report of recent Brazilian production is presented by Morris L. Cooke in "Brazil on the March" (*Whittlesey House,* 1944).

AFRICA

North Africa, freed from the immediate burdens of war, is beginning a slow recovery. Most of the coastal fringe, the most productive part, has been the scene of fierce fighting, and the agricultural economy experienced severe damage. Some farms could be restored to production quickly, reports Victor B. Sullam in "The Agriculture of Northern Libya" (*For. Agric.*, July, 1944), especially the "dry farms" growing wheat and barley, but great damage was done to the irrigation systems which will take years to mend, and the production of grapes, olives and nuts is reduced accordingly. Then, as usual in the case of war, the livestock was either killed or driven off, further handicapping agricultural rehabilitation.

In South Africa the improvement in shipping has eased the export situation with respect to meat, wool, grain, and minerals. The Union is again supplying Britain with beef, wool, corn, and has been sending coal, coke, and coconut oil to Argentina. More people are supported by mining than by agriculture, but mining may be less important in the future. Maurice E. Wright assesses the future in "The Agricultural Resources of South Africa" (*For. Agric.*, Mar., 1944), including the serious problem of external markets.

EUROPE

It is difficult to gauge the changes in production in Europe and it is much too early to forecast the post-war patterns. The productive economy has suffered tremendous changes, including changes in population in many countries. E. M. Kulischer in "The Displacement of Population in Europe" (Int. Lab. Off., Montreal, 1943), strikes at a fundamental factor in production changes, which is only less important than the war itself. Millions of Europeans have been evacuated to Iran, the Belgian Congo, South Africa, Palestine, South America and the United States. Most of these will never return.

In the occupied countries the effect of the war on production has varied. Where there has been little fighting, as in Denmark, drastic but not fundamental changes have occurred, from the status of an exporter to a status of self-sufficiency as shown by Karen J. Friedmann in "Agriculture and Food in Denmark" (*For. Agric.*, May, 1944). More emphasis on bread grains and potatoes, less acreage in hay and forage, reflect the greater self-sufficiency. About the same changes have occurred in the Netherlands but there the upset in agriculture is more serious since the marsh land has been flooded with salt water and otherwise damaged by the retreating armies. In Greece the displacement of population and the damage to irrigation systems has been most severe but the remnants of the Greek people should be able to restore subsistence farming quickly, although the production of grapes, olives, fruits, and nuts may not be restored for many years.

On the whole the agricultural production of Europe has held up remarkably well and there are indications of an increase in food production in 1944 over 1943 and 1942. (See "Food in Continental Europe and the Soviet Union" [*For. Agric.*, June, 1944]).

ASIA

Although only a comparatively small part of Asia has been a battle ground, almost the whole of the continent has been affected profoundly by the war. Southwestern Asia—Syria, Iraq, and Iran—has been partially occupied; the Soviets have called on Asiatic Russia for food, minerals, and industrial products to supplement the diminished production in European Russia, but on the whole China and southeastern Asia have been most profoundly disturbed by the war. A comprehensive study of Asia, including the whole of the U. S. S. R. is given in G. B. Cressy's *Asia's Lands and Peoples* (McGraw-Hill, New York, 1944), to which is appended an extensive and excellent bibliography.

Although little information of recent date has come out of Japan for obvious reasons, there have been trickles of information from other lands. China, with most of her best land in Japanese hands, has had her productive economy disturbed the most. Although the good rice land is partly in the hands of the Japanese, the production of rice, wheat, barley, oats, and sweet potatoes provide the main items in the limited diet of Free China according to Owen L. Dawson in "China's Food Problems" (*For. Agric.*, May, 1944), but China is looking forward to the post-war world and is assessing her mineral resources also. Kung-Ping Wang gives a general picture of the non-ferrous metals production and reserves in "Mineral Resources of China" (*Geog. Rev.*, Oct., 1944).

After the war in China there will remain the old problem of what to do with the surplus population. Raymond T. Moyer considers the possibility of expanded production in Manchuria, which has already absorbed some of China's surplus millions, in "Agricultural Potentialities in Manchuria" (*For. Agric.*, Aug., 1944), but it is obvious that before the war is over the problems of Asia's resources and their utilization must come in for a very close scrutiny. How can the devastated lands be restored? How can the people be fed in the meantime? Who will get the major oil concessions in Arabia and Iran?

OCEANIA

As the war moves slightly away from Australia, New Zealand, and some of the Pacific Islands, the old problems of domestic production as well as some new ones come to the surface. The presence of large armies in this region has stimulated the production of food, and the gardens and fields tended by soldiers in their spare time has eased the strain on trans-Pacific shipping. With the introduction of many crops new to this region there is bound to be permanent effects on the native production, such as is described by R. G. Oakley in "Agriculture in Guam" (*For. Agric.*, Oct., 1944). The task of improving the native agriculture and other forms of production throughout the southwest Pacific is discussed in a brief review "An Atlantic Charter for the Southwest Pacific" (*Geog. Rev.*, July, 1944).

MINERALOGY AND PETROGRAPHY

By Clifford Frondel
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DANA'S SYSTEM OF MINERALOGY

The first edition of this work was published by James D. Dana of Yale University in 1837, and a sixth edition by his son Edward S. Dana appeared in 1892. The *System* became and still is a recognized authority, used wherever mineralogy is studied. During the half century which has elapsed since the last edition was published vast changes have affected the science of mineralogy. Not only has there been an accelerated growth in the factual content of the science, but a new understanding of the inter-relations, properties, and ultimate structure of minerals has come from the advent and intensive application in recent years of optical and x-ray diffraction methods of study. Further, much of this new information has not been systematized or presented in readily available form. The publication of the first volume of the new seventh edition of the *System* thus is an event of major importance to mineralogists (*Dana's System of Mineralogy*, by Charles Palache, Harry Berman, and Clifford Frondel, Harvard University, 7th ed., vol. 1, 1944, xi and 834 pp., many figs.; New York, John Wiley & Sons).

The accumulation of data for the new edition was first started in 1915, but no actual beginning was made until 1937 when, under the leadership of Professor Palache, and with the aid of financial grants from the Penrose Fund of the Geological Society of America and, later, the American Philosophical Society, the preparation of manuscript first began. The final text of the first volume, comprising the elements, sulfides, sulfosalts, hydroxides, and oxides, including the so-called columbates and tantalates, was completed in the summer of 1941. The preparation of the second volume, including the halides, carbonates, phosphates, sulfates, and other oxygen-salts, was begun at once, but this work was interrupted in 1942 by the war.

A third volume will comprise descriptions of the silica minerals and the silicates.

Some of the principal changes in the new work may be briefly mentioned. The form of presentation of crystallographic data is wholly new and follows the Goldschmidt two-circle goniometric method. All of the crystal angle tables were recalculated and the illustrative figures redrawn. The crystallographic data are based on the structural cell as set out by x-ray measurements, and this has led in many instances to changes in the choice, position or relative dimensions of the older morphological elements. The chemical descriptions are expanded and include a discussion of the serial variations in composition, together with a comprehensive selection of chemical analyses. Mineral species of identical crystal structure that are related by serial gradations in chemical composition and other properties are described as a single natural unit and not as separate arbitrarily defined species as formerly done. Inclusive lists of localities are given for all but the very common minerals, and this section is prefaced by a discussion of the modes of occurrence and associations of the species. A large amount of new factual data including x-ray measurements, chemical analyses, determinations of specific gravity, and crystallographic data are scattered through the volume. This new work, much of it not published elsewhere, was necessitated by the discovery during the course of preparation of the book of inadequate or erroneous earlier descriptions. The authorities for all the important data cited in the text are given in a greatly expanded reference section. This section also includes general literature, transformation formulae, lists of rare or questionable forms, and discussions of controversial matters. Other changes in the seventh edition include the use of uniform adjectival prefixes for chemical varieties as proposed by Schaller, and a new decimal system of numbering species.

Here we must also refer with deep sorrow to the accidental death on August 27th of Professor Harry Berman, co-author of the work, in a plane crash in Scotland while on a technical mission as a civilian consultant for the U. S. Army Signal Corps.

QUARTZ OSCILLATOR PLATE INDUSTRY

The year saw a general leveling-off of production in the quartz oscillator industry with an accompanying increase in the quality of manufacture. Rapid progress was made in technical matters. The tendency of high frequency crystals spontaneously to change their operating characteristics with time has given the procuring agencies grave concern. This effect has been traced to the existence of a thin strained and semi-granular layer —the so-called Beilby layer—on the surface of the crystal and produced by abrasive action in the course of manufacture. It is found that this layer can be removed and the undesirable ageing phenomena obviated by etching the semi-finished crystal in a solvent for quartz. This treatment dissolves away the damaged surface layer of the oscillator plate and exposes solid "bed-rock." The etching action is accompanied by a change of frequency of oscillation, in crystals whose frequency is determined by the thickness of the plate, and the operation can thus be used as a manufacturing technique in adjusting the plate to a desired frequency. Current Signal Corps specifications require all high frequency crystals to be etched. A hitherto obscure photo-chemical coloration produced in quartz by the action of x-rays and certain other radiations recently has been found to be accompanied by an alteration in the elastic constants of the mineral. This alteration in turn varies the oscillating properties of the quartz plate. The change in frequency is downwards from the original value and is accompanied by little or no change in crystal activity. The rate of change of frequency is largely dependent on the wave-length and intensity of x-ray beam employed. The total change of frequency that can be thus brought about is limited, and amounts to a few kilocycles in high frequency BT crystals. The effect is now being utilized on an industrial scale. The method is advantageous in that it affords a means of precisely adjusting a crystal to a desired frequency and permits the recovery of crystals that have gone over the upper frequency tolerance. The situation as to the supply of raw quartz to the industry is somewhat easier than in past years. Efforts to develop domestic sources of supply, however, are still unsuccessful.

CHEMISTRY OF CHROMITE

This vitally important war material is used principally to make ferrochromium for alloy steels, but also finds important application as a refractory. The steel industry accounts for about three fourths of the domestic consumption. In ordinary times most of the material is imported from abroad, but the First and Second World Wars greatly accelerated the search for and development of domestic sources of chromite. The U. S. Geological Survey as part of its Strategic Minerals program has been studying deposits of chromite in the Western Hemisphere, and a report on the chemical part of this work has now been issued. Several hundred new chemical analyses are described and the type and limits of isomorphous variations in chemical composition are discussed. Chromite is a member of the spinel group of minerals and has the ideal composition $FeCr_2O_4$. The actual composition varies widely and this influences the use to which the material can be put. Magnesium very commonly substitutes in part for the divalent iron, and both aluminum and trivalent iron may replace chromium. The raw mineral may fail to meet metallurgic or chemical requirements with diminution in the chromium content, while for refractory purposes a relatively high content of aluminum and low content of iron is desirable.

SILICON CARBIDE

This substance, familiarly known under the trade names of carborundum and crystolon, is widely used as an abrasive by virtue of its extreme hardness and tenacity. X-ray and morphological study has shown that the ordinary commercial grades of silicon carbide are mixtures in varying proportions of a substance designated alpha-SiC and a low temperature polymorph known as beta-SiC. The alpha polymorph is further found itself to consist of five separate modifications or types which are closely related both in crystal shape and structure. Commonly two or more of the alpha types are intergrown to form a single apparently homogeneous crystal. The beta polymorph is hextetrahedral in crystallization and often occurs intimately intergrown in oriented fashion with alpha-SiC.

X-RAY INVESTIGATIONS

X-ray study of chalcocite has shown that the high temperature polymorph of the pure copper sulfide phase is orthorhombic in crystallization. High-chalcocite reverts reversibly to low-chalcocite at 105° C. with only a slight change in crystal structure. The so-called isometric chalcocite formerly thought to represent the high temperature polymorph differs in composition from pure copper sulfide and is a phase distinct from high-chalcocite. An x-ray study of the iron-rich silicate stilpnomelane has shown that the mineral possesses a layer type structure related to that of biotite and minnesotaite. Wide channels in the structure account for the ready base exchange phenomena observed. The mineral is found to be an important essential constituent of the iron formations of the Cuyuna and Mesabi ranges of Minnesota. Another mica-like mineral, gümbelite, also has been investigated by x-ray methods. The structure appears to be very similar to that of muscovite.

NEW MINERALS: MISCELLANEOUS CONTRIBUTIONS

The name *minnesotaite* has been given to a silicate of iron found in large amounts in the Biwabik iron formation in the western part of the Mesabi range in Minnesota. The mineral occurs associated with greenalite, stilpnomelane, magnetite, and quartz. X-ray study shows that minnesotaite is closely related in atomic structure to talc, and is in fact an iron-talc. The rare iron-rich mica known as *siderophyllite* has been found at a new locality on the Seward Peninsula, Alaska. Chemical analysis shows that the mineral approaches closely to the octaphyllite type. An unusual occurrence of the sulfate mineral *boussingaultite* has been found in the burning refuse heap of an anthracite breaker near Mahanoy City, Pa. The mineral has formed from ammoniacal and sulfate-rich products of combustion.

A description of an unusual deposit of beryllium-rich minerals at Iron Mountain in New Mexico, has been published by the U. S. Geological Survey. The principal beryllium species are *danalite* and *helvite*. These occur associated with magnetite, fluorite, diopside, and other species, many of them containing small amounts of beryllium, in a contact metamorphic rock. Staining tests are described by which members of the helvite group can be distinguished from garnet. The name *genthelvite* is given to a new zinc member of the helvite group; the mineral in general resembles danalite, the iron member of the series. The mineralogy of the natural tellurites of iron has been reinvestigated by x-ray and optical methods. The long established species durdenite and emmonsite are found to be identical, and two new ferric tellurites, *mackayite* and *blakeite,* are described. Mackayite, named after John W. Mackay (1831-1902), occurs as green tetragonal crystals at Goldfield, Nev., associated with emmonsite and blakeite. The chemical composition of both emmonsite and mackayite is uncertain; both minerals appear to be hydrated ferric tellurite.

Weinschenkite, a rare phosphate of yttrium hitherto known only from a single locality in Bavaria, recently has been found to occur in the Kelly Bank iron mine in Rockbridge County, Virginia. The mineral forms spherulitic crusts upon limonite, and appears to be a secondary product formed by a combination of bichemical and leaching processes. The name *brammallite* has been given to a new sodium-rich silicate found as thin incrustations on shale in the coal measures of South Wales. The mineral is allied in its properties and crystal structure to mica but is distinct from paragonite and illite.

A new hydrated oxide of tungsten to which the name *hydrotungstite* is given has been described from Calacalani, Bolivia. The species occurs in altered tungsten ores as microscopic green monoclinic crystals. The mineral alters readily by dehydration to give tungstite. A peculiar deposit of *thenardite,* sodium sulfate, has been discovered as beds in the soil immediately below salt crystallizing pans at Didwana, India. Here for the past 150 years ordinary salt has been concentrated by evaporation in open pans from brine. Fractional crystallization has separated the sodium sulfate and chloride originally present in the brine, and the sulfate has leached downwards to crystallize in the underlying soil. The total accumulation of thenardite is upwards of 750,000 tons, and supplies from this unique deposit have already replaced the salt-cake previously imported into India.

TERRESTRIAL MAGNETISM AND ELECTRICITY

By John A. Fleming
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GENERAL

Although the war has required much confidential research in the field of geomagnetism, which may not now be released, good progress has been made which may be reported. The military requirements, other than those of special development in the application of magnetic methods, have also required the continuation of magnetic surveys and observatory operations.

UNITED STATES OBSERVATORIES

The five magnetic observatories of the U. S. Coast and Geodetic Survey continued in operation. The international magnetic standards were maintained at the Cheltenham Magnetic Observatory of that Survey in cooperation with the Department of Terrestrial Magnetism of the Carnegie Institution of Washington. This cooperation included also a complete atmospheric-electric program at the Survey's Tucson Magnetic Observatory.

CANADA, GREENLAND, ALASKA

The observatories at Meanook and Agincourt, Canada, under the Dominion Observatory, were operated as heretofore. The Godhavn and Ivigtut, Greenland, magnetic observatories obtained complete magnetic records throughout the year.

The observatory at College, Alaska continued through the collaboration of the University of Alaska and the Carnegie Institution of Washington. Besides the complete magnetic program, heights and directions of the ionospheric layers, electric field-strength from selected radio stations in various parts of the world, rate of change of horizontal component of the Earth's magnetic field, intensity and duration of zenith aurora, and other special observations were obtained. It was shown that the Arctic type fade-out of radio signals is the result of ionization by charged particles deflected towards the pole in the Earth's magnetic field, thus confirming the work of Appleton and Builder in Norway some years ago. There was also further confirmation of quasi-longitudinal type of radio wave-propagation in high latitudes.

SOUTH AND CENTRAL AMERICA

Geophysical programs were continued throughout 1944 at the Pilar, La Quiaca, South Orkneys, and San Miguel Observatories in Argentina, at the Vassouras observatory in Brazil, at the National Observatory of San Bartolomé in Colombia, and at the Magnetic Section of the National Astronomical Observatory of Mexico at Teoloyucan, Mexico. At the request of the Military Geographic Institute of Uruguay an officer of the Army was instructed intensively at Washington in the use of magnetic instruments and in discussion of magnetic data; a CIW magnetometer-inductor was made available on loan to the government of Uruguay in order that there might be completed in 1945 and 1946 an intensive survey of that country to include about 65 magnetic stations.

SURVEYS

South and Central America.—A further extensive program of magnetic observations at repeat-stations in South and Central America was completed by the U. S. Coast and Geodetic Survey in cooperation with the various republics. The staff of the Huancayo Magnetic Observatory of the Carnegie Institution of Washington collaborated in part of this work on a field-trip to the Amazon, obtaining observations at Chiclayo, Yurimaguas, Pucallpa, and Iquitos in Peru.

United States. — Repeat-observations in all parts of the United States and Alaska were obtained by the Coast and Geodetic Survey. These data were obtained preparatory to the completion of the isogonic charts of the United States for 1945.

World.—The geomagnetic program at the Watheroo Magnetic Observatory in Western Australia, operated by the Carnegie Institution of Washington, was continued, and geomagnetic observations were maintained at the Apia Observatory in western Samoa. Through the loans of instrumental equipment by the Carnegie Institution of Washington a large number of repeat-stations was obtained throughout Australia and New Zealand.

GEOMAGNETIC RESEARCH

The variation with geographic position of the amplitude of the solar daily variation, particularly for the anomalous regions between the geomagnetic and geographic equators, was mapped, using observations obtained at numerous field-stations as well as at more sparsely distributed magnetic observatories. The amplitude is greatest near the geomagnetic equator, and its anomalous increase is the more marked at points of greatest departure of the geomagnetic from the geographic equator. It is thus in good agreement with the interpretation of the dynamo-theory of Balfour-Stewart and Chapman.

Using the method of field-analysis by integrals, theoretical computations of vertical intensity from world-charts of horizontal intensity and magnetic declination were developed and tested. Relationships were obtained among derived and intrinsic magnetic elements of world-charts which will be useful in delineating isomagnetic lines consistent with the requirements of electromagnetic theory.

The geographic occurrence of aurora and geomagnetic disturbance was studied, using data for over 100 auroral stations observing since 1872 in the Northern Hemisphere. The improved estimate, using geomagnetic data, of the position of the region of maximum auroral frequency was found in good agreement with extensive auroral observations of the First and Second International Polar Years, 1882-83 and 1932-33, and with those of other expeditions. Near the center of the auroral zone, as is the case in middle latitudes, there is a marked parallelism between auroral frequency and sunspot-number; at the auroral zone the daily frequency of visually observed aurora is practically independent of sunspot-number.

GEOELECTRIC RESEARCH

At the Department of Terrestrial Magnetism an investigation was made of some aspects of mechanisms proposed to elucidate the generation of charge in the thunderstorm. Quantitative examination brings into question essential portions of all those proposals which have not been definitely refuted by qualitative evidence.

An attempted analysis of data, particularly from the Watheroo, Huancayo, and College Observatories, led to satisfactory conclusions regarding several characteristic aspects of atmospheric-electric diurnal variations and the variations in amount of radioactive matter and of the number of condensation-nuclei in the atmosphere. The relation between recombination-coefficient and the mobility of ions was determined and formulas established.

The seasonal variation of the earth-current diurnal variation as recorded at Tucson exhibits several unusual features, most striking of which is the large increase in the magnitudes of both north-south and east-west components in January. This increase begins near the winter solstice, reaching its maximum between Jan. 5 and 10, and disappearing early in February. The cause of this unusual feature is not clear, but since a similar phenomenon has been noted in the geomagnetic variations at Tucson, it is unlikely that it is caused by changes in resistivity or other factors which might affect current-flow alone.

IONOSPHERE

Tabulations and analyses of data obtained by the CIW automatic multifrequency recorders at Huancayo, Watheroo, and College were maintained current, and results were promptly exchanged with authorized agencies. The measurements from Huancayo and Watheroo are now continuous for more than half a sunspot-cycle and have been particularly helpful in the analysis of long-term trends and in the preparation of forecasts of radio propagation-conditions. We have realized more than ever before the fundamental and binding ties between the ionosphere and geomagnetism. Individual bits of knowledge gathered from studies of solar activity, aurora, radio-blackouts, absorption-measurements, signal-intensities, current-systems, magnetic bays, and other geophysical factors are gradually being sifted into proper perspective to provide answers to many perplexing problems confronting the geophysicist.

COSMIC-RAY RESEARCH

To maintain, as far as possible, continuity of permanent cosmic-ray records for future theoretical and statistical investigations, the cosmic-ray meters at Cheltenham, Huancayo, Teoloyucan, Christchurch, and Godhavn were continued throughout the year.

The program of Prof. A. H. Compton's group at the University of Chicago included cosmic-ray studies at Echo Lake and on the summit of Mount Evans. It was concluded from a study of experiments on the production of mesotrons in different materials that the creation of a mesotron is a nuclear process. It now seems well established that mesotrons moving through the Earth's atmosphere disintegrate spontaneously into electrons and neutral particles of unknown nature (probably neutrinos).

Prof. V. F. Hess and associates at Fordham University continued study of the ionization of the atmosphere by cosmic and terrestrial radiation. At New York University Prof. S. A. Korff and collaborators made a study of the quenching mechanism in self-quenching counters, and a theory describing the mechanism in such counters was evolved and found to be supported by experimental tests.

At the California Institute of Technology Dr. R. A. Millikan and associates found time to study and analyze data, as yet unpublished, taken in the summer of 1940 in high-altitude flights with electroscopes. Some new facts obtained are as follows: (1) Evidence for helium-annihilation rays entering the atmosphere between latitude 51.3° and 56°; (2) the possible composite character of the silicon-annihilation and the so-called oxygen-annihilation bands; (3) the variability in incoming cosmic-ray intensities; (4) a new and more accurate determination of the value of the field-sensitive and the non-field-sensitive components of the incoming cosmic rays.

PARÍCUTIN VOLCANO

The Division of Geography and Geology of the National Research Council established a United States Committee for the Study of Parícutin. The purpose of the Committee was to coordinate with Mexican scientists the research on the Parícutin Volcano and to encourage and facilitate studies in various scientific fields related thereto. The Committee intends to avoid useless repetition and to observe aspects which depend on corrections of the actual data before activity subsides and the record of eruption is obscured by them. The proposed investigations which are being supported by grants from the Geological Society of America include geological, geomagnetic, chemical, seismic, meteorological, and other scientific studies.

PUBLICATIONS

Magnetic results published by the U. S. Coast and Geodetic Survey include those for San Juan, 1926-28, Cheltenham and Tucson, 1933-34, and Tucson, Sitka, and Honolulu, 1935-36. The Survey has also in press *The Magnetism of the Earth* which replaces the older publication *The Earth's Magnetism*. A large number of a series of 43 isomagnetic charts covering the world on a scale of 1:5,000,000 was completed.

The American Geophysical Union held its 25th annual meeting in Washington June 1-2, 1944. Its published *Transactions* for 1944 include Part II (200 pages) for 1943 and Part I (185 pages) for 1944. Parts II, III, IV, V, and VI of 1944, with a total of some 900 pages, are in press and in preparation and will be distributed at bimonthly intervals before June 1945.

The quarterly *Journal of Terrestrial Magnetism and Atmospheric Electricity,* published by the Johns Hopkins Press, completed its 49th annual volume in 1944. It contains original articles, sections on magnetic storms, magnetic character-figures, notes, reviews, and bibliography. In 1945 it will complete half a century of service as the leading journal dealing with geomagnetism and geoelectricity.

POST-WAR EDUCATION

During 1944 there was an increasing trend by colleges and universities toward recognizing the necessity for improved opportunities in the field of geophysical education. Through provision made in the will of the late Henry E. Sever the Sever Institute of Geophysical Technology was endowed at the University of St. Louis. That Institute is for the exclusive study of geophysics to fit men to meet post-war needs, and its courses include scientific exploration for oil and minerals, meteorology, applied electronics, and radio communication. A Department of Meteorology was established at the University of California at Los Angeles, and other schools are establishing chairs and professorships in geophysics which thus tend to improve opportunity for geophysical study to fit persons for geophysical operations during the post-war era. The Colorado School of Mines, the Missouri School of Mines, the Michigan School of Mines, the University of Toronto, the Massachusetts Institute of Technology, the University of Washington, and the University of California all now offer courses in various aspects of geophysics and are giving consideration to a well-balanced post-war program. Considerable discussion and correspondence is currently under way among the many educators which should broaden the opportunity for education in geophysics and its branches.

METEOROLOGY AND CLIMATOLOGY

By F. W. Reichelderfer
Chief, United States Weather Bureau

GENERAL

Weather and climate continue to be determining factors in many military operations and in war production on all fronts. The meteorological service of the U. S. Weather Bureau, in cooperation both with military and with civilian organizations, provides information and advices that enable military commanders and war industries to make the best use of favorable weather, and reduce to a minimum the losses from unfavorable weather.

NEW METEOROLOGICAL STATIONS AND SERVICES

During the year, new meteorological stations were established where required in support of war activities; and following the relaxation of restrictions on the distribution of weather information, certain of the special services for agricultural, business and industrial interests throughout the country have been resumed. The hurricane warning service was further strengthened; and the military reconnaissance flights into hurricanes inaugurated in 1943 were successfully carried out at the times of the major hurricanes in 1944. The special services of the Weather Bureau are credited with having saved many lives and several hundred million dollars worth of livestock and other property during the year; and the national weather service has contributed in many ways to increased war production and accelerated movement of goods essential to the success of the war effort.

Recruitment and training of personnel have been major problems in maintaining these services under war conditions. The training project for Latin American students begun during 1943 under the auspices of the State Department and the Weather Bureau has provided nearly 200 additional qualified observers for the meteorological services on airways in Central and South America, an accomplishment which adds to the efficiency and safety of all American air transport interests throughout the hemisphere.

COORDINATING AND ISSUING INFORMATION

As a result of military requirements and world wide operations, and increasing civilian demands, a large number of new meteorological reporting stations of all kinds have been established in many parts of the world; and the observational material available to meteorological services has greatly increased. To make effective use of all these data in meeting the increasing demands for quickly preparing accurate forecasts and making them promptly available, it has been necessary to develop improved procedures in the meteorological offices of the various Allied military and civil agencies. The numerous observing stations must be identified by International Index Numbers; and correct up-to-date lists of these index numbers and other information about the stations must be furnished to all agencies. The task of coordinating this information and of issuing the required world lists has been assigned to the U. S. Weather Bureau. It is becoming an increasingly widespread practice to organize central analysis offices, at which the data from all these stations are collected, and synoptic maps prepared and analysed by specially trained personnel working on split-minute schedules; the analyses for certain areas are then sent out in numeral code form to the field offices where they are needed. The special requirements of the different military and civil meteorological services, and the different characteristics of various geographical areas, have resulted in a number of analysis codes coming into use; and during the past year the Allied services, through representatives on a meteorological committee, agreed on a standard basic form of analysis code to obtain uniformity in analyses in all parts of the world, and thereby greatly increase the efficiency of meteorological procedure. For the transmission of weather information, experiments in the use of facsimile equipment were carried on. An experimental circuit was established between the Weather Bureau offices at La Guardia Field and in downtown New York; and copies of weather maps and other data were exchanged between these offices. The experience gained in the trials so far made, indicates that this means of communication promises to be of great service to meteorological offices when present limitations on detail of image and speed of reproduction are overcome, and when equipment is more readily obtainable.

SERVICES TO AGRICULTURE

There was noteworthy progress during 1944 in the program of operational advices for agriculture. Under this program, which is carried on in cooperation with the State Extension Services, radio broadcasts are made on regular daily schedules. The broadcasts include special weather forecasts, localized and specialized to meet sectional and seasonal farm needs in the area served, together with timely and helpful agricultural advices, supplied principally by state extension service specialists and county agents. This service is designed to provide the farmer with detailed weather information of value in protecting crops and livestock against adverse weather conditions and at the same time to give him any related or seasonal advices that will assist him in understanding the relation of prospective weather to his operations. While this program is in operation in only limited parts of the country at the present time, the results have been highly satisfactory and plans are under consideration to strengthen considerably and expand this service.

RESEARCH

Research in meteorology, as in nearly all other scientific fields under war conditions, has been devoted almost entirely to problems of immediate importance in practical applications. In particular, the importance of weather and climate in planning and executing military operations, especially in aviation, has led to intensive efforts to improve weather forecasts and to extend the length of period in the future for which they can be made; research for increasing our understanding of weather processes, efforts to develop improved forecast methods on the basis of this increased understanding, and tests of the results through application in actual practice, have all been carried out on a large scale. Especially to be desired are methods of forecasting which are more objective and mechanical than the procedures which must in general now be used.

PRECIPITATION FORECASTS

The development of quantitative precipitation forecasting was continued during the year; and active service on a limited basis was extended to certain sections of the United States for the benefit of the U. S. Engineers and others. Under this program, the Weather Bureau issues, two or three days in advance, forecasts of precipitation in terms of average depth over designated river basin areas. This information is beneficial to the U. S. Engineers and the Tennessee Valley Authority in providing opportunity to plan in advance the operation of their flood control works and reservoirs. This information, together with forecasts of temperature changes, wind, and snow and ice storms, is also helpful to public utility companies in planning operations and maintaining schedules.

OBSERVATIONAL RECORDS AND DATA

An indispensable foundation for meteorological research, and for practical applications of meteorology, is an adequate body of observational records and data. To meet war needs, weather and climatic data for all parts of the globe have been systematically collected from past records, and compiled in usable form, by the Weather Bureau and the military services; the resulting maps, tabulations, and summaries constitute one of the most valuable permanent benefits to come from war activities. During 1944, the 40-year series of daily sea-level analyzed weather maps of the northern hemisphere, which had previously been completed, was supplemented by a three-year series of southwest Pacific synoptic charts; an eight-year series of northern hemisphere 3-kilometer charts; and other upper air charts embodying information not previously available. A project was begun for microfilming, coding, recording on punch cards, and summarizing aerological records from foreign stations in all parts of the globe.

NORTH ATLANTIC HURRICANE

Among the severe weather conditions experienced in the United States during the year, was the intense North Atlantic hurricane of Sept. 8-16, 1944, which during Sept. 14 and the morning of the 15th lashed 900 miles of the east coast from Cape Hatteras northward. This storm was similar in many respects to the destructive New England hurricane of 1938, but reached the heavily populated coastal regions of New England with somewhat less intensity, and was less destructive.

PUBLICATIONS

New books published during 1944 included: H. R. Byers, *General Meteorology;* E. W. Hewson and R. W. Longley, *Meteorology, Theoretical and Applied;* B. Haurwitz and J. M. Austin, *Climatology;* Hugh Duncan Grant, *A Cloud and Weather Atlas;* G. J. Brands, *Meteorology.*

AMERICAN EXPLORATION

By Robert M. Brown
Rhode Island College of Education

GENERAL

The Chicago Natural History Museum adopted in 1942 a resolution that for the duration of the war the Museum would not engage in any expeditions; and, while not so formally published, most sources of expeditions either through policy or necessity have done no more than local investigations.

EXPEDITION TO STUDY AFRICAN SLEEPING SICKNESS

A medical expedition under the joint collaboration of the Harvard Medical School and the American Foundation for Tropical Medicine was reported during December, 1943, to have arrived in Liberia to study African sleeping sickness. The expedition planned to remain six months so as to make approximately complete studies of the tsetse fly, the animalcules which are the agents of the disease, and the treatment and control of it. The personnel include Dr. J. C. Bequaert of the Museum of Comparative Zoology and Dr. David Weinman, instructor in comparative pathology, both of Harvard, and Dr. Everett P. Veatch, medical officer of the Firestone Rubber plantations.

METAL EXPEDITION IN BRAZIL

Arthur Phillips, professor of metallurgy at Yale University, has returned from Brazil. While there he led an expedition to the various mining districts to investigate problems of metal production.

MEXICAN VOLCANO INVESTIGATIONS

The Cranbrook Institute of Science and the University of Michigan during the summer carried on investigations in the vicinity of the new Mexican volcano, El Paricutin. Studies were made of the effects of ash deposition on the life of plants and animals at varying distances from the volcano; and in addition collections of animals and plants were gathered. The members of the expedition included Robert T. Hatt, Marcelle R. Hatt, and A. N. Goddard of the Cranbrook Institute, and William H. Burt of the University of Michigan.

HARVARD ALASKAN HIGHWAY EXPEDITION

A second expedition led by Dr. Hugh M. Raup of the Arnold Arboretum, Harvard University, spent three and one-half months May to September, continuing their investigations begun during 1943 along the Alaska Highway. The expedition, which was sponsored by a number of societies, included in the membership Frederick Johnson of the Peabody Foundation for American Archaeology, Lucy C. Raup, botanist, John H. H. Sticht, geologist, of Harvard University and Stuart K. Harris, biologist, of Boston University. Geological, botanical, and archaeological surveys along the Highway between Whitehorse and Fairbanks were completed. Much time was spent at Pine Creek in the Dezadeash River district; in the Kluane Lake region; and in the Upper Tanana River district. The return home was *via* Dawson Creek, Teslin and Muncho lakes, Summit Pass and the Buckinghorse River. The two summers' work added about 4,000 specimens to the botanical collections.

CONGRESSIONAL MEDAL TO COMMANDER MACMILLAN

Commander Donald B. MacMillan was on April 6, 1944 awarded by Congress the Special Congressional Medal for Distinguished Service in recognition of his scientific accomplishments in the North. The date was the thirty-fifth anniversary of the discovery of the North Pole by Admiral Peary. Commander MacMillan has devoted many years to the study of the North Polar region; he was chief assistant to Peary at the time of the discovery of the North Pole; and he has led about 20 scientific expeditions to the North.

ARCTIC INSTITUTE OF NORTH AMERICA

Plans for an Arctic Institute of North America are about completed. It is hoped that the knowledge of Arctic and Sub-Arctic North America which has been scatteringly presented by numbers of exploring expeditions will be greatly supplemented by well-organized regional studies along many lines. As a basis for the work, the organizing committee presents a generalized summary of the work to be done, which includes: (1) General research into the natural conditions of the North; (2) Studies applied to specific problems of the development of the Arctic and of Arctic living; and (3) A broad study of the relationships of the Arctic regions to the physical, social, and economic problems of the world as a whole.

To accomplish this a systematic series of explorations and researches are contemplated in the field of geology, geography, meteorology, oceanography, biology, social studies, and the adaptability of the area for various economies. The Committee, comprising members from both the United States and Canada, at the organizing meeting represented a wide range of interests and practically all the members are familiar with some phase of Arctic conditions so that the Institute has a promise of achievements of great value.

PERIODICAL PUBLICATIONS

American Mineralogist
450 Ahnaip St., Menasha, Wis.

American Scientist
Yale University, New Haven, Conn.

Bulletin of the Geological Society of America
419 W. 117th St., New York City.

Economic Geography
Clark University, Worcester, Mass.

Economic Geology
Natural History Bldg., Urbana, Ill.

Geographical Review
American Geographical Society, Broadway and 156th Street, New York City.

Journal of Geography
3333 Elston Ave., Chicago, Ill.

Journal of Geology
5750 Ellis Ave., Chicago.

Journal of Geomorphology
Columbia University, New York City.

Journal of Terrestrial Magnetism and Atmospheric Electricity
Johns Hopkins Press, Baltimore.

Mining and Metallurgy
29 West 39th Street, New York City.

National Geographic Magazine
National Geographic Society, Washington, D. C.

Nature Magazine
295 Madison Ave., New York City.

Petroleum World
412 West Sixth Street, Los Angeles.

Science
Smithsonian Institution Building, Washington, D. C.

Scientific Monthly
Smithsonian Institution Building, Washington, D. C.

Travel
116 East 16th Street, New York City.

Travel America Guide
71 Vanderbilt Ave., New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, Smithsonian Institution Building, Washington, D. C.

AMERICAN ASSN. OF PETROLEUM GEOLOGISTS, Box 979, Tulsa, Okla.

AMERICAN GEOGRAPHICAL SOCIETY, Broadway at 156th St., New York City.

AMERICAN METEOROLOGICAL SOCIETY, Blue Hill Observatory, Milton, Mass.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

Appalachian Mountain Club, 5 Joy St., Boston, Mass.

Association of American Geographers, University of Minnesota, Minneapolis, Minn.

Explorer's Club, 10 W. 72nd St., New York City.

Geological Society of America, 419 W. 117th St., New York City.

National Geographic Society, 1146 16th St., N.W., Washington, D. C.

Oceanographic Laboratories, University of Washington, Seattle.

Scripps Institution of Oceanography, La Jolla, Calif.

Seismological Society of America, University of California, Berkeley.

Woods Hole Oceanographic Institute, Woods Hole, Mass.

DIVISION XXI

CHEMISTRY AND PHYSICS

PHYSICAL CHEMISTRY

By Hugh S. Taylor
Professor, Princeton University

GENERAL

The current literature in physical chemistry does not reflect the tempo of progress actually being attained in the field. Only in selected areas, where the war effort less directly impinges, is any publication of important new knowledge occurring. As in the report of 1943, a few areas of progress only have been selected for comment. The report is not intended as a comprehensive or detailed summary of the work that has appeared.

PARTICLE SIZE AND SURFACE AREA DETERMINATIONS

There is a growing technological interest in the problem of size and surface area of fine particles since this property is of importance in contact catalysis, powder metallurgy, paints and pigments, fillers for rubber and other important technical processes. Two recent books are concerned wholly or in part with these problems: *Micromeritics; the Technology of Fine Particles,* by J. M. Dalla Valle (Pitman, New York, 1943), and *Physical Adsorption of Gases and Vapors,* by S. Brunauer (Princeton Univ. Press, 1943). A conference held in London in 1943 on the Ultra-fine Structure of Coals and Cokes concerned itself largely with such matters and the techniques available for measurement of surface area, since this quantity is of fundamental significance in the combustion process.

EMMETT-BRUNAUER-TELLER METHOD

One method of estimating surface area which has been developed over the last five years and is now largely employed scientifically and technically is due to Emmett and Brunauer. As a development of their studies on adsorption by synthetic ammonia catalysts it was found that the adsorption of gases by many surfaces, in the neighborhood of the boiling point of the gas used, gave a sigmoid or S-shaped type of curve concave to the pressure axis at low pressures, becoming convex as saturation was approached. On the basis of a large number of studies, these authors concluded that a monolayer of adsorbed gas was completed at a point in the adsorption curve where the concave portion changed to a more or less linear section which preceded the convex section due to saturation. With Teller these authors developed an equation for such S-shaped adsorptions from which the volume of gas adsorbed when a monolayer was complete unequivocally emerged. The theory was presented in a more generalized form by Brunauer, Deming, Deming and Teller in 1940, applicable to other types of adsorption isotherms than the S-shaped curves and consistent deductions as to surface areas of, for example, silica gel, from vapors such as chlorine, bromine, and iodine as adsorbates, were obtained, even though the isotherms were initially either concave or convex to the pressure axis as at low pressures. The Brunauer-Emmett-Teller method of surface area measurement has come into wide application as a method which, whatever its shortcomings—and there are clearly simplifying assumptions involved—gives consistent results which can be checked and controlled in widely different laboratories.

HARKINS-JURA METHOD

In the past two years it has been shown by Harkins and Jura (*J. Chemical Physics,* 1943 and 1944) that the surface area of non-porous finely particulate solids can be determined by first saturating the surface of the powder with the vapor of a wetting liquid, allowing the heat of adsorption to be dissipated and then measuring the heat of immersional wetting. This method gives the area occupied by the adsorbed molecules not their number. The Brunauer-Emmett-Teller method gives the number of adsorbed molecules, not their area. It is satisfying to record that these two independent methods of determination of surface area gave interlocking results in good agreement with each other, so that confidence in the Brunauer-Emmett-Teller method which is experimentally simpler has been considerably enhanced. The Harkins-Jura data indicate that the adsorption of vapors on solids is a particular case of insoluble films on surfaces, solid or liquid, that different forms of condensed phases can exist on adsorbed films, and that transitions may occur between them precisely as found by Langmuir, Adam, and others with insoluble films on liquids. In further work (*J. Am. Chem. Soc.,* 66, 1362-1373, 1385, 1944), these authors give a new equation for representing adsorption isotherms from which surface areas are derivable. The theory is thermodynamic and in the cases tested gives almost exactly the same surface area as the kinetic theory of Brunauer-Emmett-Teller.

WOOTEN-BROWN PROCEDURE

For surfaces of small area where the measurement of adsorption at pressures from 0—1 atm. is inaccurate owing to the smallness of the total adsorption, a procedure equivalent to the Brunauer-Emmett-Teller method has been developed by Wooten and Brown (*J. Am. Chem. Soc.,* 1943) but employing gases or vapors at temperatures where their saturation pressure is of the order of a few millimeters or less. Thus, ethane and ethylene can be used for such low pressure measurement, in place of nitrogen at 0—1 atm. pressure, where the temperature of experiment is liquid air temperature.

ARMBRUSTER AND AUSTIN

Armbruster and Austin (*J. Am. Chem. Soc.,* 159, 1944) have measured adsorptions at low pressures on smooth surfaces of steel to determine surface areas of either the unreduced surface or after removal of an oxide film by reduction in hydrogen. They show the applicability of the Brunauer-Emmett-Teller equation to the determination of the heats of adsorption of gases on such surfaces. These authors also show that the adsorbed gases on the surfaces behave as two-dimensional systems with typical force-area curves such as are found for insoluble films on water as studied by Langmuir, Blodgett, Adam, and others. These two-dimensional systems can also undergo phase-transformations such as have been found with the oil films, as indicated in the Harkins-Jura work already cited.

MEASUREMENT LIMITATIONS

A significant limitation of the Brunauer-Emmett-Teller method was found in the case of such clays as montmorillonite. In this instance the surface area using water as the adsorbent was 50 times greater than that found with nitrogen as the adsorbing gas. Even larger differences have recently been found by Shaw (*J. Chemical Physics,* 391, 1944) in measurements on crystalline egg albumen, where the ratio of areas with water vapor and nitrogen was 86 to 1.

This discrepancy is evidently to be ascribed to the ability of water vapor to penetrate into polar regions between layers of the adsorbent (silicate or albumen) where nitrogen can not enter by reason of its non-polar character. Bull (*J. Am. Chem. Soc.*, 66, 1499, 1940) has also shown that water vapor can be used in the Brunauer-Emmett-Teller method to determine surface areas of such proteins as collagen, egg albumen, silk, and the synthetic nylon. The data here again show that the protein molecules are linked together, in the solid state, to form coherent planes whose exposed surfaces have strong affinity for water, which becomes adsorbed on these planes.

During the current year also what is probably the most comprehensive study of adsorption of a single gas (hydrogen) by a single surface (tungsten powder) has appeared. Adsorptions have been measured from a hundred thousandth of a millimeter up to 30 millimeters at temperatures ranging from —194 to 750° C. These measurements of Frankenburg (*J. Am. Chem. Soc.*, 1827-1847, 1944) form material of fundamental importance for the more penetrating examination of theories of adsorption at surfaces. The surface areas of these tungsten powders determined by the Brunauer-Emmett-Teller method were from two to five times those calculated from the average particle sizes as determined by microscopic counts. This is owing to a "molecular roughness" of the surface not measured by the microscope and also because microscopic counting methods do not detect particles below a certain minimum size. To extend the count to smaller sizes the electron microscope is coming into increasing use as noted subsequently.

PARTICLE SIZE DETERMINATION FACTORS

A method of average particle size determination developed in the last five years is dependent on the permeability of a bed of powder to a liquid or gas flowing through it under a pressure gradient. Carman tested the method on spherical glass particles in the size range 10 to 100 microns. A variant of this method was employed in an instrument offered for sale during 1944 and known as the Fisher Sub-Sieve Sizer.

Microscopic examination of particles and a laborious counting of the frequency of particles of a given size are applicable to the determination of particle size distribution. The substitution of the electron microscope for the light microscope has revealed, however, that, in many cases, the light microscope gave erroneous results in the region of the small particles since these remained unresolved. With the electron microscope particle, sizes down to 100 Ångström units can readily be identified and have been shown to be of very considerable frequency in some powders. Indeed, many coarser particles are actually agglomerates of such small-sized units. The x-ray analysis had previously indicated the probable existence of such small units since, with these, the x-ray lines are diffuse in contrast to the large crystals which give sharp lines. Low angle scattering of x-rays is now being employed to measure these small crystallite units even in agglomerates. The best techniques in this field now permit one to determine crystallites of 100 Ångström units or less in dimension.

CO-POLYMERIZATION AND NEW POLYMERS

As a result of the importance attaching to the technical production of plastics and synthetic elastomers (rubbers) the volume of literature continues to grow rapidly. The laboratories of industrial and research organizations supply a large proportion of the newer studies. For example, workers in the Shell Development Laboratory at Emeryville, Calif., presented a series of papers at the New York meeting of the American Chemical Society, September 1944, dealing with the basic aspects of emulsion polymerization, the process whereby synthetic rubbers are achieved. These researches go far to elucidate the manner in which the polymerization in emulsion systems occur. Microscopic observation of the behavior of single small drops of organic liquids in soap solutions was undertaken by Vinograd, Fong, and Sawyer. It was shown that these droplets decline linearly with time as the drop passes into the aqueous soap solution by diffusion, the soap assisting in the solubilization of the droplet. A catalyst for the polymerization of a material such as styrene which polymerizes in the aqueous solution actually increases the rate of dissolution of the styrene droplet. This effect is attributable to the increased concentration gradient between the droplet and surrounding soap solution of the single molecules of the styrene due to their removal by polymerization in the water phase. Solubilized solutions of polymerizable materials without a second phase can be measured as to velocity of reaction and reproducible rates obtained dependent on the concentration of monomer, temperature, and concentration of soap solution. These studies go far to show that emulsion polymerization as practised in synthetic rubber manufacture occurs in the water phase, and is insensitive to the extent of interface between the water phase and the "oil" phase which contains the organic chemicals reacting. The rate of dissolution of the oil phase in the water phase is more rapid than the rate at which polymerization occurs in the water phase even when catalysts are present in the latter to accelerate the polymerization process.

MAYO-LEWIS STUDY

From the research laboratories of the United States Rubber Company, Mayo and Lewis (*J. Am. Chem. Soc.*, 66, 1594, 1944) have published a systematic study of the problem of co-polymerization of two polymerizable materials, styrene and methyl methacrylate. These form a co-polymer when they are simultaneously present in a reaction system. Some pairs of substances do not co-polymerize but simply form a *mixture* of the two individual polymers. Mayo and Lewis addressed themselves to the question as to how the single molecules built themselves into the co-polymer structure, more particularly as to what the reactivity of a growing polymeric molecule was with respect to each of the reacting constituents. In the particular case under consideration a very interesting conclusion was reached. These materials form long chain-like polymers. If the reactive center at the end of a growing chain is a styrene molecule the chance that the next molecule to add, in a system containing equal numbers of each kind, is 2 to 1 in favor of methyl methacrylate. Similarly, if the reactive end of the chain is a methyl methacrylate, the chance is again 2 to 1 that it will be a styrene molecule which next adds. No one yet knows why there is this apparent preference for reaction with the opposite type of molecule in this chain. Which type of molecule adds is also dependent on the relative numbers of the two types of molecules present in the unreacted species. The detailed structure of a growing chain will, therefore, change as the growth develops, depending on the concentrations of the two species present at any one moment in the growth process. We may expect that other pairs of reacting molecules would have differing chances of reaction. Indeed, when mixed polymers rather than co-polymers are formed it is obvious that the growing chain prefers to react with its own species and has no tendency to react with the molecule of the other kind.

The example just cited is a relatively simple system but analogous to very complex systems which nature deals with frequently. We know that the proteins are in many cases long chain-like molecules built up from individual units known as amino-acids. Many protein structures contain a large number of constituent amino-acids. In the simplest protein structures there are three or more such acids. Modern research has led to a tentative conclusion that the individuality of proteins is ascribable to a pattern of structure in which the amino-acids build into the protein in some orderly sequence. The styrene-methylmethacrylate polymer would be a simple example compared to the simplest protein polymer. We can deduce from the present results how complex a problem is ahead of science in mastering protein structures which are of paramount significance in the properties of enzymes, viruses, and protein materials generally.

NEW THREAD STRUCTURES IN SYNTHETIC RUBBER

The knowledge that rubber-like materials have a three-dimensional network structure of long thread-like molecules, which coil in the relaxed configuration and extend to linear arrays when stretched, permits the synthetic chemist to devise new thread-like structures and provide them with the necessary centers for cross-linking to give the three-dimensional network as produced, for example, in the vulcanization of rubber. Neoprene, GRS rubber (butadiene-styrene) and Buna N (butadiene-acrylonitrile) are early examples of such synthetics. A newcomer in this field is now announced by the General Electric Company. It stems from our knowledge that silica exists in a fibrous form in a zig-zag of silicon and oxygen atoms, two of the latter to one of the former. It is possible to produce synthetically a zig-zag having a backbone of silicon and oxygen in a one to one ratio, the second oxygen in silica being replaced by two organic radicals (R). These are the silicones, with a general formula R_2SiO which can be repeated indefinitely and with suitable choice of R can be made to yield rubbery materials with a virtual backbone of silica. These materials are extraordinarily resistant to heat and will supply rubbery masses useful at temperatures where natural and previous synthetic rubbers are destroyed by aging, a destructive oxidation process.

DOW-CORNING SILICONES

Smaller sized multiples of the repeating unit R_2SiO are the silicone analogues of the paraffin hydrocarbons, gasoline, kerosene, lubricating oils and waxes. It is not surprising, therefore, that, during the year, the Dow Company of Michigan and the Corning Glass Company have announced a line of Dow-Corning silicones as new materials for industry: heat resistant silicone resins and varnishes for impregnating high temperature electrical insulating material to permit operation of electrical equipment at much higher temperatures; also, water-white fluids with a particularly low change in viscosity with wide temperature changes between the freezing point of water and 400° F., with special grades available for higher and lower temperatures; finally, a series of greases specially suitable for lubrication of metal plug cocks, glass and ceramic-ware stopcocks, especially effective for operating in high temperature or corrosive services.

TECHNOLOGICAL PROGRESS

The swift pace of technological progress in such fields is a direct consequence of fundamental physico-chemical studies of the structural characteristics of carbohydrate and protein fibers and the establishment of the three-dimensional fibrous character of rubbery materials. New work in the electron-microscope and x-ray field on a fiber such as collagen (Bear, *J. Am. Chem. Soc.*, 66, 1297, 1944) calls attention to newly-discovered long spacings, repeating in the x-ray fiber pattern, which promise to be more directly related to certain of the colloidal properties of this material than are the short spacings used to determine the molecular makeup of these fibrous proteins in earlier work. What the true significance of the macro-period is remains to be elucidated.

PHYSICS

By Thomas H. Osgood
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THE STATE OF THE PROFESSION

The literature of physics which is now being published represents only a fraction of the new work which is actually being done. Most of the unpublished material is connected with military or naval science, and must be kept confidential for security reasons. There have been, however, important developments in x-rays and cosmic rays, of which an account is given below. For the rest, physicists have been concerned with several general problems affecting the welfare of the profession.

Now that physicists have their own national headquarters at 55 East 57th Street, New York, it is time to review the organization of the various societies and of the profession as a whole. As matters stand at present, an individual is a member of one or more societies which are, in turn, members of the American Institute of Physics, but there is no one organization which embraces all physicists as individuals. The advantages and disadvantages of this state of affairs were considered by a group of some 50 physicists representing all branches of the profession at a conference held under the sponsorship of the National Research Council in the Philosophical Society's chambers at Philadelphia in May 1944. Among the frank discussions (*Rev. Sci. Inst.,* 15, 283) which characterized the meetings, several important suggestions were made which will serve as tentative lines of approach toward a more satisfactory organization than exists at present.

There is no doubt that the number of men and women classed as physicists has increased during the last three years. There is good reason to believe that the demand for their services will continue to increase when once again we live at peace. Not only are industrial organizations keenly aware of the specific value of research in physics, but colleges and universities expect a general increase in enrollment quite apart from the temporary gains which will accompany any partial demobilization of the armed forces. Whatever the level of instruction in physics, expert physicists will be required in greater numbers than before. Colleges and universities may find themselves more than ever in competition with industry and with research foundations for the most able men.

If the scientific professions are to attract the best brains, their rewards must from the very beginning be just. Most physicists have gone through an apprenticeship as graduate assistants in universities and must be aware of the difficulties of living on an inadequate income. The problem is one for all branches of science. A steady investment of effort aimed at raising the average stipend of graduate assistants to the level of a young person's living wage would pay rich dividends. This is the level at which the profession now runs the greatest risk of losing good recruits.

At a higher stage in the development of the physical scientist there are clear signs that the need of providing encouragement and adequate rewards for promising research talent is being recognized. One of these welcome signs is the establishment by the American Telephone and Telegraph Company of the Frank B. Jewett fellowships in the physical sciences for post-doctoral study and research. An unusual feature of the fellowships guarantees the payment of a grant to the institution which plays host to the investigator.

There appeared in the October, 1944, issue of *The Review of Scientific Instruments* a thoughtful editorial which advocates setting up, after the war, fellowships for research in military and naval science. Anyone who has read the special number of *The Journal of Applied Physics* (March, 1944) devoted to research in the Navy will realize that the services offer wide opportunities for pure as well as for applied research. The creation of fellowships of this type would go a long way toward preventing any large part of the research in pure science which has been fostered by the war from being locked up unproductively for years in confidential files.

X-RAYS

Nearly ten years ago Kossel and Voges used a single crystal as a target in an x-ray tube and found that the diverging rays characteristic of the crystal atoms were reflected by Bragg planes in such a way as to give, on a photographic film placed nearby, a pattern of very sharp curved lines superposed upon a fairly uniformly exposed background. Their techniques appear to have been elaborated by only a few other investigators. Recently, however, the matter has been taken up by Lonsdale (*Nature,* 153, 433 and 669) in connection with a study of the perfection of crystals.

Lonsdale finds that photographs of this type can be made without using the crystal itself as the target in the x-ray tube. Instead, the crystal being investigated is mounted on the anticathode, close beside the sharp focal spot where it is strongly irradiated by divergent rays from the target. That the crystal must be quite small is to be considered as one of the merits rather than a defect of this method of crystal photography. The pattern which is obtained depends on the kind of crystal which is used, on its orientation and on the relation between the film (usually a plane) and the crystallographic axes. The pattern, therefore, gives a clue to the crystal structure once the mechanism involved is understood.

As an example of the application of this method of crystal analysis, Lonsdale's work on diamonds is of current interest. From a physical point of view, diamonds are of two kinds, which have been classified as Type I and Type II. These two types are distinguishable by differences in absorption, in photoconductivity, and in the kind of Bragg and Laue patterns which they produce under the action of x-rays.

The only point which concerns us here is the quality of the divergent beam x-ray photographs which the two types produce. Upon finding that good Type I diamonds gave poor photographs with fuzzy lines, and Type II very good ones with sharp lines, Lonsdale suggested that this difference was attributable to a difference in crystal perfection, the perfect crystals giving poor divergent-beam photographs. In the language of the x-ray specialist, Type I diamonds are characterized by strong primary extinction.

To demonstrate that the absence of a clear divergent-beam photograph could be taken as an indication of crystal perfection, Lonsdale first picked some organic crystals which gave poor pictures, then immersed them in liquid air for a few seconds. This harsh treatment would have the effect of straining the crystals violently, giving rise to somewhat less regular structures than before. Upon making photographs of the crystals after this treatment, it was found that the clarity and sharpness of the absorption lines was much improved. Lonsdale also calls attention to the necessity of allowing for primary extinction even in soft organic crystals when accurate analytical work is being done by x-ray methods. She finds, too, that large scale distortion of crystals can be detected by the blurring of some of the absorption lines in an otherwise good divergent-beam photograph. Such a large scale distortion affects a volume much greater than that of an elementary crystallite which is fundamentally characteristic of mosaic structure.

COSMIC RAYS

Perhaps the most striking feature of cosmic ray researches is the great number of different particle-creating processes which they reveal. It is the secondary particles which are responsible for most of the ionization produced by cosmic rays in an unshielded ionization chamber. In the wealth of data which these papers present, and in the conclusions which their authors draw, it is easy to find many apparently contradictory statements. At the same time it is correspondingly difficult to tell a simple story of the latest discoveries.

The mesotron, a particle of mass about 180 times that of a negative electron, seems to be the clue to any satisfactory understanding of cosmic rays. Mesotrons may be positively or negatively charged. They are radioactive, decaying to an electron and perhaps a neutrino in a few millionths of a second. A theory of the production of mesotrons by fast moving protons which are assumed to constitute the primary cosmic radiation falling on the earth's atmosphere from outer space has been developed by Hamilton, Heitler, and Peng (*Phys. Rev.*, 64, 78). This theory is being tested by a variety of experiments. For example, cloud chamber photographs have recently revealed the occurrence of small groups of mesotrons, which appear to be created at one point. Such a group is called a mesotron shower. One important feature of these mesotron showers is the small angle between the paths of the particles—in some photographs a casual observer might think their directions were parallel. Yet at other times mesotrons are produced singly. Since the processes are nuclear ones, an understanding of the differing conditions which give rise to the single or multiple production of mesotrons is important for nuclear theory.

NUCLEAR DISINTEGRATIONS

Hazen has reported (*Phys. Rev.*, 65, 67) an analysis of photographs taken with a Wilson cloud chamber, operated at 10,000 ft. in the High Sierras. His particular interest was in nuclear disintegrations produced by cosmic ray particles.

When a primary cosmic ray interacts with an atomic nucleus in such a way as to disrupt it, a characteristic group of a few tracks, known as a star, is formed. Only when these stars by rare chance have their centers in the gas of the chamber can their component tracks be observed in their true relation. These disintegration stars, which have also been studied, although under certain handicaps, in the emulsion of photographic plates, are not to be confused with electron showers which contribute to localized bursts of intense ionization. The showers may contain thousands of particles, mostly electrons. The star tracks are broad and usually short, displaying the characteristics of heavy moving charged particles. In a few special cases, individual stars have been the subject of considerable speculation.

The important question is the nature of the rays which create the nuclear disintegrations. Some are ionizing particles, most are not. Hazen concludes that they are very seldom, if ever, electrons or photons, since they are not accompanied by cascade showers. Three possibilities compatible with the immediate evidence remain—neutrons, protons and mesotrons. If mesotrons played an important part in the creation of stars, there should be a correlation between the increase in the frequencies of stars and of mesotrons with increase in altitude. Such a correlation is not observed; therefore, it seems probable that the ionizing primaries which produce nuclear disintegrations are protons, while the non-ionizing agents are neutrons. Most of the stars containing low energy components are produced by neutrons. Protons which produce disintegrations give stars with higher total kinetic energy.

ATMOSPHERIC SHOWERS

The most comprehensive and significant reports upon varied experiments with counters and ionization chambers during 1944 came from the University of Chicago group. Their work deals mainly with the production, nature, and extent of atmospheric showers, and with the production of mesotrons. The method of investigating showers used by L. G. and E. W. Lewis (*Phys. Rev.*, 65, 346A) in one of their experiments consisted in observing coincidences between large bursts of ionization in two unshielded ionization chambers. It had been shown earlier by Lapp (*Phys. Rev.*, 64, 129) that the large bursts in such chambers were coincident with wide Auger showers usually detected by Geiger-Mueller counters. By varying the separation of the ionization chambers it was discovered that the central core of an Auger shower sometimes had a particle density of 6000 per m^2. This high particle density extended only over the core of the shower, comprising an area of perhaps 100 m^2, whereas the whole shower, thinning out at the edges, may cover an area a hundred times as great. According to the generally accepted theory, each Auger shower is created by one primary ray, whose energy in cases like this must be about 10^{17} ev. It is interesting to note that the highest energy liberated in a single cosmic ray event was, in 1937, considered to be about 10^{13} ev. In 1938 new observations raised this to 10^{16} ev; now it is one order of magnitude higher still.

While some of the showers, like those just described, were spread over a rather large area, a considerable number was found which possessed only a narrow spread, their cores extending one or two meters on each side of the center. These bundles of ionizing rays were far more compact than is predicted by the present-day theory of showers initiated by electrons, unless they were created not very far above the recording devices. There are, however, two objections to such an interpretation; first, unshielded ionization chambers can not be highly selective toward showers produced immediately above them, and second, the magnitude of the bursts seems to demand the presence of photons or electrons with energy higher than can be accounted for.

The experimental results are, however, in good agreement with observations made in the stratosphere by Auger, Rogozinski, and Schein (*Bull. Am. Phys. Soc.*, 19, No. 5, 9). In one of their balloon experiments, they sent aloft sets of counters spaced over a horizontal distance of 8 meters. By noting coincidences between various groups of counters, it was possible to tell how extensive were the showers of particles in the high atmosphere. The results showed that very few high-density showers of large spread were present. High-density showers were indeed observed, but they had a small spread, of the order of 1 m. across the core, either because these showers were being recorded in an embryonic stage, or because the shower particles travelled in almost parallel directions.

MAGNETIC LENS SPECTROMETER

Information concerning nuclear energy levels is obtained from a study of the particles emitted by a disintegrating nucleus. When the particles are heavy, they can be studied well in a cloud chamber, since their tracks are short, strong, and straight; but when electrons are given out, this technique no longer suffices, for electrons produce tracks of comparatively light ionization, and so tortuous that the track length, and hence the energy of the particle, is hard to estimate. Recourse must be had to some type of electron spectrometer, operated under vacuum conditions. A magnetic field can be used to separate particles of different energies and their relative numbers may then be measured by photographic or electrical means. The desirable characteristics of such an instrument, as of an optical spectrometer, are high resolution and high intensity. It usually happens that it is difficult to secure both these characteristics under the same conditions.

Until electron optics became a recognized branch of physics, the standard electron spectrometer employed semicircular focussing of the particles emitted from a fine wire source, or from a narrow slit. This was the electrical counterpart of the prism spectrometer. If the prism be made with cylindrical symmetry, that is, essentially in the shape of a lens, the instrument becomes an optical focal isolation spectrometer, which depends for its functioning on the chromatic aberration of the lens which is used. Translating this into electrical terms, a focal isolation electron spectrometer is a single magnetic lens which has different focal lengths for electrons of different energy.

An instrument of this kind (*Rev. Sci. Inst.,* 15, 178) though not the first of its type to be constructed, has been in use for a few years at the Massachusetts Institute of Technology, where it has aided in studies of the energy levels of radioactive nuclei. The "thin" magnetic lens is actually a 300-lb. circular coil or square cross section with the following dimensions: inner radius 9.6 cm., outer radius 25.6 cm., axial length 16.0 cm. No. 12 copper wire is used. The focal length for electrons of 3.5 Mex. is 25 cm. when the power expenditure is 2 kw. Through the center of the coil runs a brass tube, about 7.5 cm. in radius, and 1 meter long. On its axis, at one end, the substance whose electron emission is to be studied is inserted; at the other, an electrical counter is placed. When the tube is placed symmetrically with respect to the lens, the source and counter corresponding to the object and image in the optical case are both equidistant from the lens. The magnification is unity and the distance from source to counter is four times the focal length. The central tube is, of course, evacuated.

One of the advantages of this spectrometer is its versatility in that it can be adjusted for high intensity or high resolution as desired. It is, therefore, possible to use it for the study of continuous β-ray spectra, or for a study of line intensities; it possesses distinct advantages when coincidence studies have to be made to determine the order in which successive nuclear events take place; and it can be adapted nicely for a study of gamma rays by measuring the energies either of photoelectrons or of Compton recoil electrons. This new instrument will not displace the older type when strong sources are available, but it will be of the greatest value in exploratory work which is not within the range of the semicircular-focussing electron spectrometer.

THEORY OF COUNTERS

In experiments on cosmic rays or radioactivity, the word counter is used to describe a device which responds to the passage of single ionizing particles. In the original counter, known by the name of Geiger, a high electric field is maintained between a sharp-pointed needle and a metal envelope which surrounds it. This field, of itself, is hardly sufficient to cause a discharge between the point and the envelope, through the gas with which the counter is filled, but if an ionizing particle passes through the gas, enough ions are created to initiate an avalanche of ions which constitues a pulse of current which (usually after amplification) actuates a mechanical recorder. In the last three decades, counters have been modified and developed, usually by empirical methods. The type most commonly used today, known as the Geiger-Mueller counter, consists of a thin wire stretched along the axis of a conducting cylinder. The thin axial wire takes the place of the point-electrode in Geiger's original design. Different experimenters have usually constructed counters following their own specifications as to size, contents, and activation technique. In many cases, extremely reliable counters have been developed; in others, the results have been disappointing, the counter characteristics varying in disconcerting fashion from one batch to the next, under apparently identical conditions of manufacture.

In the last few years, however, the processes occurring when counter "fires" have been investigated systematically, so that these Geiger-Mueller tubes can now be made to give pre-determined performance characteristics of remarkable uniformity. Typical results of recent investigations which lead to better counter performance are contained in a series of papers by Korff and his colleagues at New York University (*Phys. Rev.,* 65, 274).

NOBEL PRIZES

The 1943 Nobel Prize for Physics was awarded to Dr. Otto Stern, now at The Carnegie Institute of Technology, Pittsburgh, in recognition of his work on molecular beams. The 1944 prize was given to Dr. I. I. Rabi, of Columbia University, for his outstanding experimental and theoretical work in connection with the magnetic moments of nuclei.

ORGANIC AND INORGANIC CHEMISTRY

By Chester Merle Suter
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ALUMINUM PHOSPHIDE

The claims in the chemical literature indicating the existence of five different compounds containing only aluminum and phosphorus have been critically examined by White and Bushey (Aluminum Company of America). They conclude that actually only one compound, which contains one atom each of aluminum and phosphorus, exists, and that the previously reported compounds have been mixtures containing, in addition to aluminum phosphide, some free aluminum and aluminum oxide. Aluminum phosphide does not decompose at temperatures up to 1000° but is readily hydrolyzed by water to give phosphine.

SULFURYL CHLORIDE

During the past few years the usefulness of sulfuryl chloride as a chlorinating and sulfonating agent in organic reactions has been greatly extended. A review of this work by H. C. Brown (Wayne University) was published recently. Kharasch and Brown (University of Chicago) discovered that chlorination of aliphatic compounds occurs at moderate temperatures with this reagent if a small quantity of an organic peroxide is present in the reaction mixture. The products obtained are similar to those resulting from photochemical chlorination reactions. The process is particularly advantageous in chlorination of the side chains of aromatic hydrocarbons where the use of sulfuryl chloride appears to avoid ring chlorination in such compounds as m-xylene. In the chlorination of fatty acids with chlorine, the hydrogen which is preferentially substituted is that adjacent to the carboxyl group. On the other hand sulfuryl chloride replaces hydrogen on the second and third carbons away from the carboxyl group.

Even more interesting from a practical standpoint is the discovery that, in the presence of light and a catalyst, sulfuryl chloride sulfonates aliphatic hydrocarbons. In this way petroleum-derived paraffin hydrocarbons can be converted into sulfonic acids of potential value as detergents and wetting agents. Fatty acids can also be sulfonated by this procedure to yield sulfonyl chlorides.

RANEY NICKEL CATALYST

For a period of some years, so-called Raney nickel has been an important catalyst for the hydrogenation of a variety of organic compounds. This catalyst is made by dissolving the aluminum from a nickel aluminum alloy in alkaline solution. It has now been found that the nickel aluminum alloy itself may be used as a reducing agent, the hydrogen evolved during the solution of the aluminum attacking a variety of compounds. For example, Schwenk and co-workers (Schering Corp.) have found that sulfonic acid groups in a variety of compounds can be completely removed with formation of the hydrocarbon or other aromatic derivatives. At last it is possible to remove halogen atoms from a variety of organic compounds. Methoxyl groups may be displaced by hydrogen when they are ortho or para to meta-directing groups. For example, *o*-methoxybenzoic acid gave a 100 per cent yield of benzoic acid, whereas the *m*-methoxy compound is recovered unchanged.

It has also been found possible to reduce carbon-carbon double bonds even when these are not conjugated with reactive groups. For example, oleic acid is reduced to stearic acid in 100 per cent yields. In addition, chaulmoogric acid has been reduced to the dihydro compound in an excellent yield. From the variety of reductions that may be conveniently carried out with this reagent it is clear that it is going to be especially useful in the organic chemistry laboratory.

A new application of Raney nickel was reported in 1944 by Mozingo and co-workers (Merck and Company). During the structural studies on biotin it was found that the sulfur in this vitamin may be replaced by hydrogen atoms by treatment with Raney nickel. Enough hydrogen is absorbed by the catalyst during its preparation to react later with the compound being reduced. Several examples were given, and although its use as a preparative method is quite limited the method is of wide application in analytical studies.

Wolfrom and co-workers (Ohio State University) have successfully converted carbonyl groups to methylene groups by using this procedure. Previous methods for effecting this conversion were quite drastic but the mild conditions under which the transformation is now effected indicate that this will be the procedure of choice when dealing with sensitive molecules.

ALIPHATIC HYDROCARBON REACTIONS

Once the paraffin hydrocarbons were looked upon as being relatively unreactive except toward chlorine or bromine in the presence of light. It is now known, however, that certain of these hydrocarbons undergo rapid reaction with olefins and alkyl halides under mild conditions in the presence of various catalysts.

In an effort to determine the mechanism of the reaction between isopentane and *t*-butyl chloride, Bartlett and co-workers (Harvard University) found that, in the presence of aluminum, bromide reaction occurred with great rapidity. When the reaction proceeded for one second or less, *t*-amyl bromide was the chief product. The *t*-butyl chloride had all been converted to isobutane even in experiments where the contact lasted for only one one-thousandth of a second; *n*-pentane does not react in the manner that isopentane does, but isopropyl chloride reacts about as rapidly as *t*-butyl chloride. Accompanying the simple reaction of hydrogen-halogen interchange there are always other changes that result in the formation of a complex mixture of hydrocarbons and alkyl halides of higher molecular weight. Aluminum chloride also brings about the reaction although its insolubility in isopentane makes it a less convenient catalyst for laboratory experiments than aluminum bromide.

The hydrogen-halogen interchange and more complex reactions can be explained in terms of current electron reaction theory, assuming a carbonium ion as an intermediate in each step of a series of reactions.

It has been shown that a variety of inorganic halide salts as well as organic halides promote the isomerization of *n*-butane to isobutane by aluminum bromide. The aluminum salt alone has no effect. Information concerning this isomerization is of great practical interest since isobutane is an important intermediate in making high-octane gasoline by one process. The mechanism devised by Heldman (University of California) to explain the isomerization assumes that the aluminum in the AlX_4^- complex ion is acidic and the catalyst must have amphoteric properties. This theory indicated that methyl bromide should take part in a typical Friedel-Craft reaction with an aliphatic hydrocarbon in the presence of aluminum bromide. In confirmation of this, *n*-butane was found by Heldman to be converted into isopentane in fair yields by the methyl halide.

Thomas and co-workers (Universal Oil Products Company) have reported on the behavior of various hydrocarbons when heated with a silica-alumina-zirconia cracking catalyst. An *n*-octene fraction gave an exceedingly complex mixture of gaseous and liquid products ranging from a trace of hydrogen to high-boiling paraffinic hydrocarbons. Cyclohexene, in the presence of a synthetic silica-alumina-thoria catalyst, is converted into 5-membered ring compounds and 2, 6-dimethylnaphthalene besides unidentified products. Tetralin and decalin also gave complex mixtures of hydrocarbons.

FATTY ACID DERIVATIVES

Although the possibility of isolating single fatty acids from fats and oils has long been realized, only in recent years has a serious attempt been made to obtain pure acids on a large scale and prepare from them a variety of useful organic chemicals. For this work, organic chemists are indebted to Ralston and co-workers (Research Laboratory, Armour and Company). The starting point for most of the newly available chemicals derived from fatty acids has been the corresponding nitriles. These have been prepared by the high temperature reaction between the acid and ammonia. From the nitriles there have been prepared the corresponding amines and various derivatives of these. Chemical work in this field has called for more satisfactory data on the physical properties of a considerable variety of long chain aliphatic compounds, particularly their solubilities in water and other polar solvents. These data are being reported by Ralston and co-workers in a series of articles many of which appeared during the past year. With this information as a basis and with the compounds derived from fatty acids readily available at a moderate price, it is expected that industrial organic chemists will make use of these compounds to an increased extent during post-war years.

CAROTENE CHEMISTRY

Zechmeister and co-workers (California Institute of Technology) have examined the *cis-trans*-isomerization of α-carotene and other long chain highly unsaturated compounds. They were able to identify by absorption spectra ten *cis-trans*-isomers derived from α-carotene. Part of these were more readily absorbed in a column used for chromatographic absorption and part were less easily absorbed than the all *trans* pigment. Isomerization was brought about by illumination of a natural α-carotene by bright sunlight in a transparent quartz tube.

The nature of the carotenes present in alfalfa has been studied by Kemmerer and Fraps (Texas Agricultural Experiment Station). It was found that the so-called "carotenoid X" from alfalfa is identical with the neo-β-carotene U, and "neo-β-carotene" from alfalfa was found to be identical with the previously known neo-β-carotene B.

AMINO ACIDS

Interest continues to be shown in devising new methods for the synthesis of amino acids. Snyder, Smith and Stewart (University of Illinois) have found that a quaternary salt obtained from gramine, an indole derivative, is a useful intermediate in the synthesis of tryptophan. Previously this amino acid had been prepared by relatively tedious methods and hence is expensive. The new synthesis which also was reported by Archer, Albertson, and Suter (Winthrop Chemical Company) may make tryptophan more readily available for research and pharmaceutical purposes than it has been hitherto.

A convenient procedure for making serine has been described recently (Hartung, University of Maryland). It was found that the reaction of benzylamine with the chlorohydrin obtained from methyl acrylate gave a compound having nitrogen attached to the *alpha* carbon atom. Catalytic reduction gave serine directly with loss of the benzyl group.

From the renewed interest in amino acid chemistry it seems that these compounds, which as a class have been high in cost, will become readily available materials. However, the time when a mixture of synthetic amino acids can compare in cost with a similar mixture obtained from casein or other natural protein is still far in the future.

Snyder has reported an improvement in his synthesis of methionine. In his earlier procedure 3, 6-bis-(β-chloroethyl)-2,5-diketopiperazine was condensed with sodium mercaptide to yield methionine anhydride which was then hydrolyzed to methionine. The new procedure consists of substituting thiourea for the mercaptide, hydrolyzing the intermediate to homocysteine anhydride and then converting the latter in two steps to methionine. Although this method appears to be longer it is actually more convenient since it avoids the handling of the extremely odoriferous and toxic methyl mercaptan.

In an extension of their studies of 3-6-bis-(β-chloroethyl)-2,5-diketopiperazine, Snyder and Chiddix have found that this compound reacts with alkali with loss of 2 moles of hydrogen chloride to yield the di-vinyl compound. This in turn adds hydrogen sulfide to yield homocysteine. Previously it had been shown that methionine could be made from the intermediate and that this synthesis of the amino acid has practical value.

Because of the increasing interest in various naturally occurring peptides, research in this field continues. Barkdoll and Ross (Harvard University and Radcliffe College) have succeeded in preparing the tripeptide and also the tetrapeptide of 1-tyrosine. One of the purposes of this investigation was to compare the ultra-violet absorption spectra of peptides of this nature. If the number of amino acids in the peptide chain increased, it was also found that in the synthesis of such peptides the removal of the carbobenzoxy group, which is the last stage in the process, can be effected by alcoholic hydrochloride as well as by means previously used.

ANTIBIOTICS

One of the interesting fields of research stimulated by the discovery of penicillin is the search for antibacterial substances in plants other than molds. A British investigator has reported that in a survey of several thousand species of plants about 6 per cent contain compounds of greater or lesser activity toward microorganisms. It has long been known that *Allium sativum* contains a variety of sulfur compounds and also shows some antibacterial action. However, Cavallito and co-workers (Winthrop Chemical Company) have found that none of the known constituents of garlic has activity but that activity is caused by a newly isolated substance which appears to be an allyl disulfide monoxide. Chemical evidence indicates that this is a monoxide of allyl disulfide. So far it is not known whether this compound will have any application in therapy.

The chemistry of several other antibiotic materials has been elucidated during the year. Clavicin, which has been isolated by Waksman, has been shown to be identical with Patulin which has been examined by British investigators. The compound is a non-nitrogenous pyrone possessing a lactone grouping. First reports indicated that it was beneficial for the treatment of the common cold, but more extensive investigation failed to support this claim.

Gliotoxin, the antibiotic principle of gliocladium fimbriatium was investigated by Johnson and co-workers (Cornell University). All the structural features except the correct placement of the sulfur atoms have been determined. The compound was shown to possess an indole nucleus.

Aspergillic acid, which may be obtained from the mold Aspergillus flavus, was shown by Wintersteiner and Dutcher (Squibb Laboratories) to be a derivative of the diketopiperazine derived from leucine, one of the amino acids which is widely distributed in nature.

Undoubtedly a tremendous amount of work in the field of penicillin and similar compounds is under way in various laboratories but publication of results in this field is apparently being delayed for reasons of national security.

BIOTIN

The synthesis of biotin was announced in 1943 but no details were supplied. These have now been published by Folkers and co-workers (Merck and Company laboratories). During the work on the synthesis of this compound two additional racemic isomers of *dl*-biotin were also prepared. This was quite unexpected since it means that in one of these compounds the two 5-membered rings of biotin must bear a *trans* relationship to each other. The two isomers of biotin have been designated *dl*-allobiotin and *dl-epi*allobiotin. When the sulfur was removed from *dl*-allobiotin, the resulting desthio compound was found to be inactive in supporting the growth of yeast whereas the *dl*-desthiobiotin shows activity.

The discovery of the structure of an important new naturally occurring compound always results in the development of the organic chemistry of many related derivatives. Biotin is no exception to this statement, a number of papers having appeared which deal with compounds that are in one way or another related to biotin. Previous information in the literature regarding saturated 5-membered heterocyclic nuclei containing oxygen or sulfur has been very limited.

Hofmann (Ciba Research Laboratories) has reported on the synthesis of 3,4-dicarboxy-2-furanvaleric acid and also on the synthesis of two stereoisomeric 3,4-diamino-2-tetra-hydrofuranvaleric acids. The latter two compounds represent two of the four possible racemic forms of the oxygen analog of the diamine derived from biotin. Apparently it has not been possible thus far to convert either of these compounds into the biotin analog.

A method has been devised by Cheney and Piening (Parke, Davis and Company) to synthesize the analog of biotin in which the thiophane (tetrahydrothiophane) nucleus has been replaced by the thiophene nucleus. To indicate the present difficulty of preparing compounds of this type it may be mentioned that 17 steps are required for this preparation. Even if one assumes a satisfactory yield of product in each step the difficulty of obtaining a moderate amount of the final product is obvious. So far apparently it has not been possible to add four hydrogens to the thiophene nucleus to prepare biotin from this intermediate.

The products found in urine which stimulate the growth of yeast and do not combine with avidin have been further studied by Roger Williams (University of Texas). The nature of these compounds is not yet clear, and an alternative explanation for the observations is that there are substances in urine which interfere with the combination of ordinary biotin with avidin.

NICOTINIC ACID

Because of the interest in the fortification of wheat flour by the addition of certain of the vitamins, the demand for nicotinic acid has far exceeded the supply. As a consequence several investigations have been published dealing with the conversion of various pyridine derivatives into nicotinic acid. In a study of the oxidation of nicotine, β-picoline, and quinoline, Woodward, Badgett and Kauffman (U. S. Department of Agriculture) found that sulfuric acid at a high temperature in the presence of selenium in the liquid phase gave the desired product. The yields were better for quinoline and nicotine than for β-picoline.

The vapor-phase oxidation of nicotine over vanadium pentoxide has been reported from the same laboratory as giving about a 50 per cent yield of nicotinonitrile. In as much as the nitrile can be converted to the acid or amide in excellent yields this also serves as a potential process for making the vitamin.

SYNTHESIS OF QUININE

Probably the most publicized achievement of organic chemists during 1944 was the synthesis of quinine reported by Woodward and Doering (Harvard University). This has been an outstanding chemical problem since the isolation of the pure crystalline alkaloid in 1820. The structure of quinine has been known since 1908 but hitherto all efforts to synthesize it have been unsuccessful.

The investigation under discussion led to the synthesis of *d*-quinotoxine through a long series of steps starting with 7-hydroxyisoquinoline. The *d*-quinotoxine which may also be obtained from quinine was converted to quinine by Rabe, a German investigator in 1918.

When the Japanese conquered the areas from which our quinine supply came, the shortage of this drug was looked upon as being almost as serious as the shortage of rubber. However, in the meantime intensive study and use have shown that quinacrine is, in the majority of cases, preferable to quinine and hence our dependence upon the natural alkaloid has diminished. The quinine synthesis furthermore is not a practical one since quinine produced by this method would cost perhaps $100 a gram even if difficulties in the way of transferring the laboratory procedure to a commercial plant could be overcome. However, this lack of practicality in no way detracts from the important achievement of the synthesis viewed from the standpoint of the organic chemist. Furthermore, it may be that other compounds obtained in the course of the synthesis or substances related to them will prove useful either as antimalarials or in other ways.

REARRANGEMENT OF FREE RADICALS

In a continuation of their work on Grignard reactions brought about by cobaltous chloride, Kharasch and coworkers (University of Chicago) have investigated the behavior of the β,β-dimethylphenethyl radical in ether solution. This radical is formed by the action of phenylmagnesium bromide on β,β-dimethylphenethyl chloride in the presence of the cobalt salt. It undergoes a complex series of changes yielding at least five products, the initial reaction apparently being a molecular rearrangement where either a phenyl or a methyl group shifts from its original position to the position vacated by the chlorine. These rearrangement products are still free radicals and undergo dimerization or disproportionation. This work is of considerable theoretical interest and represents an important contribution to our knowledge of free radicals.

SYNTHESIS OF SUCROSE

The comparative immaturity of organic chemistry is particularly evident in the inability of organic chemists to prepare certain of the sugars. There is some dispute as to whether sucrose—ordinary cane and beet sugar—has actually been made in the laboratory, but it seems likely that it has not since the reported synthesis could not be duplicated by other investigators.

It has now been found that sucrose can be prepared enzymatically. Fructose and a glucose-1-phosphate undergo reaction in the presence of a sucrose phosphorylase to yield inorganic phosphate and a carbohydrate shown to be identical in every way with natural sucrose. This synthesis supports the conclusion that glucose exists in the sucrose molecule in the *alpha* configuration, supporting the previous suggestions of Hudson and co-workers.

ARSENICALS

Despite the long-known usefulness of arsenicals in the treatment of syphilis and certain tropical diseases caused by trypanosomes, research in this field continues to receive attention. In as much as certain amidines are known to be bactericidal, Linsker and Bogert (Columbia University) have studied the preparation of amidinoarsenic compounds. However, data as to their value are not yet available.

Eagle and co-workers (U. S. Public Health Service) have investigated a variety of new arsenicals, particularly those containing amide linkages. Certain of these, particularly the ones containing sulfonamide groups, give promise of therapeutic value.

A new type of arsenical drug which is highly active against trypanosomes has been prepared by Friedheim. The most active compound found was *p*-(2, 4-diamino-s-triazinyl-6)-aminophenylarsonic acid. This compound was found to be seven times as active as tryparsamide against T. Equiperdium infections in mice. The compound is obtained from the readily available cyanuric chloride and sodium arsonilate. The condensation product which contains two chlorine atoms is treated with ammonia to give the desired diamino compound. A host of other derivatives were prepared, but the above was found to be most active.

Banks and co-workers (Parke, Davis Laboratories) have prepared a great number of derivatives related to this compound some of which have shown activity as trypanosomicides.

NITROPARAFFINS

Reactions continue to be discovered which lead to the utilization of aliphatic nitro compounds. Nightingale and Janes (University of Missouri) have shown that a variety of ketones may be prepared by condensing nitro compounds with aldehydes to give, first, alcohols and, then, nitroölefins. Reduction of the nitroölefins accompanied by hydrolysis yields ketones which in some instances would be difficult to prepare by more orthodox procedures.

DDT

The heavy demand of the armed forces for 1,1-di-*p*-chlorophenyl-2,2, 2-trichloroethane (DDT) for the control of mosquitoes and typhus-carrying lice has imposed yet another production problem on the chemical industry, a problem which seems to have been largely solved during the past year. The usefulness of this compound in the control of disease in the armed forces puts it in the same category as penicillin and quinacrine as a life-saver.

GYPSY MOTH ATTRACTANT

The gypsy moth causes severe damage every year to trees in the New England area. It has been known for sometime that the male moth is attracted to the female by scent, and a benzene extract of the abdominal tips of unfertilized females is used in baiting traps for the male moth. The search for other materials which will attract the male moth has been unsuccessful; therefore, Haller and coworkers (U. S. Department of Agriculture) have begun an investigation of the chemical nature of the benzene extract. They have found that the attractant material is somewhat volatile with steam, contains no acidic or basic group, and upon hydrogenation the attractiveness of the material is considerably increased. Cholesterol was obtained from the material before hydrogenation but it had no attraction for the male moth.

UTILIZATION OF SULFITE WASTE LIQUOR

Efforts to find uses for the sulfite waste liquor resulting from the manufacture of paper are being made at the Institute of Paper Chemistry. Pearl and co-workers have reported that sodium-*p*-azobenzenesulfonate is obtained as a reduction product from the action of sulfite waste liquor and alkali on nitrobenzene. It has been determined that lignin is the active reducing agent. Further reduction of the azo compound with a metal reducing agent in acid solution gave chiefly benzidine, an important dyestuff intermediate.

Extension of this study to a variety of nitro compounds indicates that other reduction products of interest may be obtainable. Furthermore, vanillin is obtained as a by-product of some importance in these reductions.

SYNTHETIC RUBBERS

The most common variety of synthetic rubber, which is a copolymer of styrene and butadiene, does not perform well under high-temperature conditions and hence functions poorly in large tires where heat is generated in large quantity during use and does not escape rapidly. A recent report by Michalek and Clark (Mathieson

Alkali Works) indicates that rubber made from dichlorostyrenes and butadiene has improved heat resistance as well as other desirable characteristics. The copolymer is most suitable for tires when sufficient dichlorostyrene is present to provide for a chlorine content in the range of 12-16 per cent. Although more data on the behavior of the dichlorostyrene rubber in actual use are necessary before its value can be firmly established, it is probable that it is an important addition to the family of synthetic rubbers. Presumably it will be somewhat more expensive than the regular GR-S (Buna S) rubber because styrene is less expensive than dichlorostyrene but this difference may not be a serious factor in determining the cost of a finished tire. It is unlikely that full details of the properties of the dichlorostyrene rubber will be available until after the war.

It has been reported by C. H. Fisher and co-workers (Eastern Regional Laboratories, U. S. Department of Agriculture) that the polymerization of a mixture of an acrylate ester and butadiene yields a vulcanizable, rubber-like material which may have interest in the rubber field. An interesting aspect of this work is that common carbohydrates can be converted by fermentation into lactic acid which in turn is a source of the acrylates. Because of this source of the necessary starting material, the new polymer has been dubbed "Lactoprene." The utility of this class of compounds must of course be determined by further investigation.

According to J. J. Newman of the Goodrich Company this country's $750,000,000 synthetic rubber plant has the chance of paying for itself within four years after natural rubber again becomes available from Far East plantations.

CHEMISTRY OF VULCANIZATION

Although the production of rubber goods with suitable characteristics depends upon the long-known process of vulcanization, the chemistry of this process is still not entirely clear. In recent years it has been considered that cross linking of carbon chains by primary valence bonds through sulfur atoms occurs during vulcanization but details of the process are lacking. The behavior of simple olefins toward sulfur and other agents used in vulcanization has been investigated by Armstrong, Little and Doak (U. S. Rubber Company). It was found that 2-methyl-2-butene, which has a close structural analogy to a unit of natural rubber hydrocarbon, reacts with sulfur to give a mixture of unsaturated sulfides and disulfides; 2-Butene, closely related to the Buna synthetic rubbers behaves similarly. These results verify the views already held regarding the formation of cross links of the sulfide and disulfide types.

In the vulcanization process zinc oxide is present along with the sulfur. It was observed that the extent to which this is converted into zinc sulfide corresponds to the amount of cross-linking that takes place.

SILICONES

During the year the commercial production of a new type of polymer known as silicone was reported by the Dow Chemical Company and Corning Glass Works. Details as to their composition are lacking, but it may be inferred from the material already available in the literature that the silicones are prepared from alkyl and aryl silicon chlorides by hydrolytic polymerization. The polymers have a great range of viscosity and are reported to have properties which will make them suitable for insulating material.

ELECTROCHEMISTRY

By Colin G. Fink
Professor, Columbia University

GENERAL

During 1944 Electrochemistry again scored numerous scientific as well as commercial successes, many of which have not yet been released for publication, but there is no doubt in the minds of those intimately associated with these electrochemical developments that many new products and processes will be made available to the public at the close of the war.

ELECTRIC FURNACES

Electric steel furnaces turned out in 1944 thousands of tons of special steels used in the manufacture of large guns, army trucks, jeeps, and other munitions. Electric alloy steels meet rigid ordnance specifications. A number of new Heroult type furnaces were installed during the year, bringing the electric steel capacity to a total never before attained. After the war much of this capacity will be devoted to the production of stainless steels to be applied to hundreds of new uses in the arts and industries.

Of special interest has been the rapid spread of high frequency electric heating. New fields of application have been surveyed and many of these are now carried out commercially. The processing of metallic parts with high frequency induction heating has become a very specialized art. Tempering, case hardening, or annealing of steel parts can be closely regulated and controlled as to temperature and time never before possible in fuel-fired furnaces or in electric arc or resistor type furnaces.

Of unusual importance is the application of high frequency heating to non-metallic materials. Medicine has led the way; and now plywood and similar glued products utilize high frequency heating. Other applications are thermo-setting plastics and textiles; also both natural and synthetic rubber compounds are preheated by high frequency currents preliminary to molding. Finally, high frequency heating is used to bring about chemical reactions where ordinary heating by gas or other fuel has been impractical, if not impossible. In this field the vacuum tube art has been the pioneer.

ALUMINUM

The aluminum industry continues to be concerned with the supply of raw materials in particular bauxite. Jamaica and Haiti have become new sources of bauxite supply. On the other hand, the extraction of alumina from clay still attracts engineers. A. T. Sweet, of the U. S. Bureau of Mines, reported on the ammonium sulfate process for the extraction of alumina from relatively rich clays of Idaho, Utah, and the Pacific Coast. The pilot plant has turned out a product comparable in quality with that derived from Guiana bauxite.

A new method was published for the protection of aluminum metal surfaces against corrosion. The aluminum article is anodically oxidized superficially in an aqueous solution of urea and formaldehyde, together with sodium borate. The anodic current is increased until sparking occurs on the metal surface.

CALCIUM AND LITHIUM

Both of these metals are valuable scavengers in ferrous as well as in non-ferrous metallurgy. The production was very materially extended during 1944. Calcium enters as an indispensable reagent in the production of many strategic war materials.

ANTIMONY

W. Church Holmes of Kellogg, Idaho, devised a new method for the recovery of antimony from tetrahedrite, a silver, copper, antimony sulfide mineral, which can not be broken down physically and separated. Holmes applied an alkaline sulfide leaching solution and electrodeposited the antimony from this solution. The process has been carried out on a large scale, furnishing pure antimony metal, one of the dozen strategic metals.

ELECTRODEPOSITION

As pointed out previously, the introduction of strip steel has contributed very materially toward the rapid development of preplating before forming. For many years it has been universally customary to form the metal article first, then to plate it. This involved a vast amount of separate and costly handling.

Strip steel plating with tin is a well established industry. The product is used primarily for the manufacture of cans. Besides tinplating steel strip, it is being plated with zinc, copper, and nickel. The plate, no matter which metal, must preferably be bright as it leaves the last cell since it would be practically impossible to polish the plated steel strip. Accordingly, the preferred plating baths are of the "bright-plate" type—"bright zinc," "bright cadmium," etc.

Of increasing importance, on account of the high corrosion resistance of the alloy plate, is the bright F. and L. nickel plating bath. The bath contains about one part of cobalt to four of nickel. D. H. Schantz has developed a highly corrosion resistant electroplate composed of about equal parts of zinc and nickel. The bath is acid (pH 1 to 3) and contains 8 oz./gal. of each metal.

The General Motors Corporation reported favorably on the production of bright nickel castings, obtained from a nickel sulfate bath containing about 0.4 grams per liter of selenium dioxide. W. A. Wesley and E. J. Roehl found that the nickel chloride plating bath had unusually high throwing power.

The brightening reagents in modern bright zinc plating are piperonal and molybdic acid.

Chromium plating is being very extensively applied on millions of machine parts and steel surfaces subjected to severe wear. There is more chromium plating today than before Pearl Harbor in spite of the fact that there is no chromium plating today for decorative purposes (Government decree).

The war has also boosted lead plating of steel parts. Where wear resistance is not the deciding factor, lead offers satisfactory protection against corrosion. The lead fluoborate plating bath has been found most satisfactory.

U. A. Mullin advocated the use of a triple plate for bearings: first, a silver deposit onto the steel; next, a lead plate; and finally an indium plate on top of the lead plate. This combination is unexcelled for high-speed bearings and heavy loads. Silver has a high resistance to fatigue but lacks "oiliness" which is supplied by the lead-indium. Lead alone, without indium, is attacked by the acids in lubricating oils. The indium counteracts this.

High frequency heating of electrodeposits on steel and other metals has been successfully applied commercially for the welding of electrodeposits onto the basis metals. This procedure ensures high corrosion resistance of the basis metal. It promises to expand rapidly.

In copper deposition the current efficiency is much lower for the same current density with ultrasound than without. The grain size of the deposit is always larger with ultrasonic waves.

The U. S. Bureau of Mines published details on the process for the extraction and electrodeposition of cobalt of low grade ores. The electrolyte is a fluoborate solution.

ELECTROLYTIC POLISHING OF METALS

For the anodic polishing of stainless steel (18/8), I. C. Clingan recommends a 60 per cent sulfuric acid solution and an anode current density of 6 amperes per square inch, keeping the bath at 40° C.

For polishing copper surfaces, Charles L. Faust advocates an aqueous solution of about 50 per cent phosphoric acid plus 20 per cent chromic acid, operating at about 50 amperes per square foot of copper surface (anode), exposed, and keeping the bath at about 45° C.

For carbon steels, Faust uses a 70 per cent phosphoric acid plus 12 per cent chromic acid bath at 300 amperes per square foot and a 25° C. bath temperature.

DRY CELLS

The Electrochemical Society held two meetings during 1944, one at Milwaukee and the other at Buffalo. Of special interest were the scientific-technical sessions on "Powder Metallurgy," "Corrosion," "Leclanche (dry) Cells," "High Frequency Electric Heating," and the "Production of Caustic and Chlorine."

The dry battery manufacturers, deprived of certain raw materials because of the war, carried through an elaborate research program. The results achieved were outstanding. The "war" batteries are a decided improvement over the older type. Among the modern tools used in this country-wide research are the x-ray and the electron microscope. Thus, for example, the carbon blacks used in dry cell manufacture could be evaluated by the electron microscope as to particle size, adequate graphitization, and tendency toward dispersion into chain-like aggregates.

Interesting also is the finding that there are five distinctly different crystal varieties of manganese dioxide in a dry cell. The final manganese product in an exhausted dry battery is the double salt, $ZnO.Mn_2O_3$, that is to say, the manganese dioxide has been reduced to a trivalent compound.

HYDROGEN

A new type of cell for the production of electrolytic hydrogen was reported upon by B. P. Sutherland. The electrolyte is a solution of potassium hydroxide. The characteristic feature of the new cell is the concrete top which supports the electrodes, diaphragms, and the bus bar and gas main connections. The life of the new cell is better than six years. Hydrogen is a very important gas in the production of special war materials.

ELECTRONICS

J. O. Aicher discovered that, to avoid interference with radio reception in the vicinity, low-pressure gaseous electric arc devices are supplied with special cathodes consisting of coiled tungsten filaments, coated with barium-strontium oxides into which coating fine particles of platinum or palladium have been introduced, which provide a good conducting surface over the electrodes.

PERIODICAL PUBLICATIONS

American Journal of Physics
57 E. 55th St., New York City.
Chemical and Engineering News
1155 16th St., N.W., Washington, D. C.
Chemical Engineering Catalogue
330 West 42nd Street, New York City.
Chemical Industries
522 Fifth Ave., New York City.
Chemical and Metallurgical Engineering
330 West 42nd Street, New York City.
Chemical Reviews
Mount Royal and Guilford Aves., Baltimore, Md.
Chemist, The
60 E. 42nd St., New York City.
Industrial and Engineering Chemistry
60 E. 42nd Street, New York City.
Journal of the Acoustical Society
57 E. 55th St., New York City.
Journal of the American Chemical Society
Easton, Pa.
Journal of Applied Physics
57 E. 55th St., New York City.

Journal of Chemical Education
500 Fifth Ave., New York City.

Journal of Chemical Physics
57 E. 55th St., New York City.

Journal of Mathematics and Physics
Massachusetts Institute of Technology, Cambridge, Mass.

Journal of the Optical Society
57 E. 55th St., New York City.

Journal of Organic Chemistry
Mount Royal and Guilford Aves., Baltimore, Md.

Journal of Physical Chemistry
Mount Royal and Guilford Aves., Baltimore, Md.

Physical Review
57 E. 55th St., New York City.

Review of Modern Physics
57 E. 55th St., New York City.

Review of Scientific Instruments
57 E. 55th St., New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSOCIATION OF CEREAL CHEMISTS, 4049 Pennsylvania Ave., Kansas City, Mo.

AMERICAN ASSOCIATION OF PHYSICS TEACHERS, Northwestern University, Evanston, Ill.

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS, 440 Fourth Ave., New York City.

AMERICAN CERAMIC SOCIETY, 2525 N. High St., Columbus, O.

AMERICAN CHEMICAL SOCIETY, INC., 1155 16th St., N.W., Washington, D. C.

AMERICAN ELECTROCHEMICAL SOCIETY, Broadway and 117th St., New York City.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, 50 E. 41st St., New York City.

AMERICAN INSTITUTE OF PHYSICS, 57 E. 55th St., New York City.

AMERICAN LEATHER CHEMISTS ASSOCIATION, 143 W. 20th Street, New York City.

AMERICAN MICROSCOPICAL SOCIETY, Kansas State College, Manhattan, Kan.

AMERICAN OIL CHEMISTS SOCIETY, 509 Poydras St., New Orleans, La.

AMERICAN PHYSICAL SOCIETY, Columbia University, New York City.

AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, U. S. Bureau of Agricultural Chemistry and Engineering, Washington, D. C.

AMERICAN SOCIETY OF BREWING CHEMISTS, INC., 64 East Lake St., Chicago.

ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS, Box 540 Benjamin Franklin Station, Washington, D. C.

COPPER AND BRASS RESEARCH ASSN., 420 Lexington Ave., New York City.

NATIONAL RESEARCH COUNCIL, 2101 Constitution Ave., Washington, D. C.

SOCIETY OF CHEMICAL INDUSTRY, 305 Washington St., Brooklyn, New York City.

SYNTHETIC ORGANIC CHEMICAL MANUFACTURERS ASSN., 6 E. 45th St., New York City.

DIVISION XXII

BIOLOGY

ORGANIC EVOLUTION AND GENETICS

By Myron Gordon
Research Associate in Genetics, New York Zoological Society

WHAT IS HEREDITY?

Dr. Theodosius Dobzhansky of Columbia University discussed Professor Dice's (University of Michigan) statement that "the characters of man that are inherited include not only his anatomical features, but also his physiology and his psychology" in *Science* (100:406, 1944). Heredity does not transmit anatomic features or behaviors literally; it determines the responses, the norm of reaction, of the organism to its environments. The same heredity in different environments may give rise to different phases of the same character, anatomical or behavioristic. To say that man's psychology is inherited does not mean that it is fixed and unalterable. We can not change our heredity directly, but heredity is not implacable destiny to which one must submit in resignation. We should seek for ourselves, and contrive for others, environments in which our hereditaries respond most favorably.

In discussing "race psychology" Dr. Dobzhansky stated: "Races are defined as populations differing from each other in the incidence of certain genes. Physical characters suggest that there are all degrees of racial subdivisions, beginning with social isolates, local populations, and up to the major races the reality of which is not impaired by intermediate or doubtful groups. Theoretically, it is possible that, although genetic variation in psychic characters exists from individual to individual, the incidence of all the variants in the several races is alike. Second, it is possible that races differ in the incidence of some of these variants but the differences are purely quantitative. Finally, it is possible that the differences are purely qualitative, and all individuals of one race possess certain genes which are always lacking in the other race and *vice versa*. On these points there is insufficient evidence. But the environmental plasticity of psychic characters is so great that average differences between races will be smaller than the amplitude of the intra-racial differences."

GENES AND MAN

In *Genes and the Man,* a Teachers College, Columbia University, publication (New York, 1943:1-386, 106 figures), the author Dr. Bently Glass, Associate Professor of Biology in Goucher College, states: "It appears to me important that we should understand the epic sweep of an individual's growth and development up to maturity and the long years of slow decline thereafter, together with those tenuous physical bonds that link each generation with all before and after . . . by tracing them from their beginnings in protoplasm and the genes." He adds that the genes and chromosomes are important to us only because of the effects they produce during the course of growth and development; the completed man is fully intelligible only as we perceive what has made him as he is. This overall view is rarely taken in the teaching of biology, and Dr. Glass has endeavored to supply and implement the methods in bringing this viewpoint forward. His subject matter cuts across many departmentalized fields of biology.

Dr. Glass begins his story of genes and man with "The single cell," discussing spontaneous generation which is given an interesting historical background. He follows with a section on "The origin of differences in hereditary patterns" in which sexual or biparental inheritance is given the significance it deserves in making variation in many organisms possible beyond the limits of unisexual or vegetative produced organisms. This subject is extended in the next part under the heading of "The genetic basis of sex."

The section of "The basis of growth and development" discusses the manner in which genes interact to produce traits and an assessment of the relative importance of heredity and environment. In "From potentialities to realization" Dr. Glass discusses the various steps in the developmental process from cell division, through embryonic growth and the physiological requirements of the new individual. The book ends with the chapter "On growing old" and here he explains old age in terms of physiology.

CELLS THAT SEE

Dr. Samuel R. Detwiler, Professor of Anatomy, College of Physicians and Surgeons, Columbia University, has written a general account of the visual cells of vertebrates with particular emphasis upon their structure, development, distribution among the various animal groups, together with some of their physiological responses. His book *Vertebrate Photoreceptors* (Macmillan, 1943;1-184, 110 figures) contains a general discussion of vertebrate eyes in which he says they are constructed upon a common generalized plan. Despite the architectural similarity which one meets when studying the structure of eyes, one can not help but be impressed with the fact that there are many deviations from the common scheme. This pertains not only to the sensory receptor and nervous transmitting mechanisms, but to the light-collecting and focusing devices as well. In vertebrates, Dr. Detwiler points out that the vertebrate eye has an inverted retina, so that the photosensitive elements are turned away from rather than towards the source of illumination. He discusses the various theories to account for the origin and inversion of the retina during the course of phylogeny.

The book contains a clear, well illustrated account of the eye structures as a whole, the finer details of the retina, its differentiation into various elements, their structure correlated with the diurnal or nocturnal habits of the animals which possess them, and the photomechanical movements are explained. An interesting and important chapter discusses the supposed evolutionary relationship and the functional significance of the fovea. G. Elliott-Smith suggested that the changes which occur in the structure of the parts of the anthropoid brain concerned with vision, as owing to the origin of the macula which is also, according to him, responsible for the profound evolution of the nature of vision in apes and man. The macula region in anthropoids and man is the region of highest visual acuity where the layers of the retina are spread apart, so as to produce a depression known as the fovea. Views opposed to Elliott-Smith are presented, notably those of Walls. Dr. Detwiler warns that neither the presence nor absence of a macula or fovea can be used to regiment any animal in the evolutionary scale as some workers have attempted to do.

Vertebrate Photoreceptors is the latest of the series of books issued under the group name of Experimental Biology Monographs which consist of biological essays by active workers in the field, in which experimental contributions are synthesized and hypotheses proposed which may stimulate further research. Dr. Detwiler's contribution, his second (his first being "Neuroembryology"), meets the requirements excellently, for the problems are many concerning the physiology and evolution of the various elements; he has estimated our knowledge and indicates where further work is required.

HANDBOOK OF MOUSE GENETICS

Dr. Hans Grüneberg of University College, London has prepared an extremely useful handbook and guide to the many genetic discoveries concerning the mouse. He has referred to over 1,000 papers, books, and other sources of information. He devoted most of the book, *The Genetics of the Mouse* (1-412, 14 plates, 43 figures) published by Macmillan 1943, to a thorough and critical review of the inherited variations of the house mouse, including those owing to single genes and those of complex or undetermined genetic origin. The variations are grouped under the following headings: color genes, the genetics of spotting, hair texture, endocrine organs, brain and sense organs, blood and blood-forming organs, skeleton, alimentary tract, urogenital system, quantitative differences, serology, miscellaneous behavior. His book has short chapters on taxonomy, reproduction and growth, chromosomal inheritance and induced genetic changes, and appendices on the genetics of cancer in mice which is written by Dr. C. C. Little and Dr. P. A. Gorer. He gives instructions for the keeping and breeding of mice for genetical experiments. The known facts in regard to the morphology, physiology, and development of the different variants are fully presented. Maternal inheritance, linkage, phenocopies, and X-ray studies are among the subjects discussed. This book, although published in England, will be as useful to American geneticists as to students of heredity in other countries.

Embryologists, anatomists, physiologists, pathologists, and the worker in the general field of animal biology will find in this "genetics" book a wealth of material of great importance in their special field which they may not have expected to find. Workers, other than those following closely the trend of modern genetic research, may not have realized that geneticists have been studying inherited variations in the function of the endocrine glands, including such topics as pituitary dwarfism, size and structure of the thyroid, brown and amyloid degeneration of the adrenals, involution of the X-zone of the adrenals, production of, or response to, androgen and genetic variations of the oestrous cycle.

Hematologists will be interested to learn that the following topics are reviewed in relation to their inheritance: macrocytic anaemia and other types of anaemia, hemoglobin level in adult mice, disappearance of megakaryocytes from the liver, leucocyte number and shape of spleen. Other organs are treated in detail; for instance, in discussing the inherited variations in the urogenital system, the following topics appear: renal lesions, imperforate vagina, mammary glands.

This is a worthy companion book to *Biology of the Laboratory Mouse* which was written by the staff of the Jackson Memorial Laboratory and published by the Blakiston Co. in 1941 and was reviewed in The American Year Book for that year.

EVOLUTION OF SPEED

According to Dr. A. Brazier Howell in his new book, *Speed in Animals, Their Specialization for Running and Leaping* (Univ. of Chicago Press, 1-270, 1944), the greatest single factor in progressive evolution has been locomotion. The need for speed, either to secure food or to escape being food for others, is ever present among animals. The lion, for example, must move quickly to catch its food. The antelope, on the other hand, needs speed for escaping from its enemies. The development of an excess of speed in a large, and particularly in a specialized carnivore, could prove disastrous. If it could secure prey with too much ease, it well might increase numerically to the point where it would destroy its food supply and become starved into extermination, a condition suspected as occurring in the history of some of the saber-toothed cats. Dr. Howell goes on to say: "It is no exaggeration to state that the factor of speed, either defensive or offensive, plus or minus, has been one of the most powerful factors, if not the most powerful, in evolution."

The book traces the changes in form that have taken place in many types of vertebrates in adapting themselves to speedy locomotion. Being primarily a student of mammalian anatomy, Dr. Howell devotes much the greater part of the book to this group; only a scant 25 pages are given to the more primitive examples of locomotion as portrayed in fish, amphibians, reptiles, and birds, but, perhaps because of this, the book covers locomotion in mammals, in greater detail. There are chapters on the Monotremes and Marsupials, on Placental Mammals, on the Muscular System, the Axial Skeleton, the Arm, the Leg, on Proportions and on Gaits.

Some of the conclusion are as follows: evolution of form, from the lowest to the highest vertebrates, has not been in a straight line but in a series of zigzags, to fit the organism for the different environments encountered. The primary locomotor apparatus of fishes has always been the body. The chief use of the pectoral fins was originally as stilts, and of the pelvics, as props; in the free-swimming stage both are fundamentally equilibrators. The amphibian posture involved proximal limb bones directed laterally so that elevation of the body above the ground required the expenditure of considerable muscular effort. The same statement applies to living reptiles, but not to most dinosaurs and mammal-like reptiles. At first, the forelimbs were used chiefly for pulling the animal forward; the hind limbs chiefly for support. This was largely so because of the heavy tail, characteristic of most amphibians and reptiles. The skeletons of all birds are basically highly adapted for running. Ninety per cent of birds have legs of higher cursorial modification than all mammals but those most highly fitted for speed.

Dr. Howell stresses the point that no animal, no matter how highly and curiously specialized, is an end product beautifully and perfectly fitted for its particular existence, but a compromise. Evolution has taken the material at hand and has theoretically done the best it could with it.

MITOSIS

Mitosis was written by Dr. Franz Schrader, Professor of Zoology at Columbia University (Columbia Univ. Press, New York, 1-110, 1944). The author has brought together the ramifying literature in this field and subjected it to critical analysis. As the sub-title indicates, the treatise is restricted to chromosomal phenomena and deals with cytoplasmic constituents only in so far as they are directly involved in the mitotic process. Dr. Schrader emphasizes recent work and the viewpoint of the modern biochemist and biophysicist. He treats the numerous aberrant types of mitotic behavior which must be considered along with the standard ones before any adequate conception of intracellular kinetic activities may be obtained. He recognizes and reveals in great detail the extraordinary complexity of the mitotic process and the difficulty of explaining chromosome movements on the basis of any one simple principle. The book possesses a bibliography of 18 pages.

Prof. C. W. Metz, cytology specialist in the University of Pennsylvania, writing in *Science* (100:496-497, 1944), in reviewing the book sums up by saying: "The work closes with a three-page conclusion in which the inadequacy of all current hypotheses is balanced against the fact that probably the majority of hypotheses have a portion of truth in them. The inherent difficulties in the experimental method of attack are cited, and promising lines of future investigation are depicted. The latter section not only lends a final cheerful and encouraging tone to the survey but will be of practical value to future investigators."

Dr. Schrader explains the use of the word "mitosis" as used by the geneticists who have restricted the term to nonmeiotic cells, a usage which, though not correct, is eminently practical from their point of view. He indicates that mitosis is used in his book in the old, inclusive sense, and the term "meiotic mitosis" is applied to the process in the maturing germ cells.

HANDBOOK OF DROSOPHILA MUTATIONS

Dr. Katherine S. Brehme has completed the work begun by the late Calvin B. Bridges for the book *The Mutants of Drosophila Melanogaster* published by the Carnegie Institution of Washington. It contains a foreword by Dr. T. H. Morgan. The book consists of an invaluable alphabetically arranged compilation of descriptions of the mutants and chromosome aberrations of Drosophila melanogaster, covering all available publications through December 1942. It contains short chapters on "Nomenclature and Symbolism" and "Descriptions of wild-type stocks." In addition it has 15 pages devoted to comprehensive linkage maps (subdivided for each chromosome in two parts, one giving the most and another the less useful loci). It contains the plates of Bridges' maps of the salivary chromosomes, a bibliography of Bridges, and 226 pages of descriptions of individual mutants. Each entry contains, as far as available, the following data: its symbol, its name, its finder, the date of discovery, the chromosome group, its locus references to publications, reference to figures, spontaneous or induced origin, its phenotypic expressions, reaction to temperature, its overlap, viability and fertility, cytology, development and physiological data, and finally it is evaluated as an experimental tool. Figures of 128 mutant types are presented, some of them hitherto unpublished. As one outstanding Drosophilist, Dr. Kurt Stern of the University of Rochester, expressed it: "The book will serve as a handbook to Drosophila investigators and as a source of new insight to students of general genetics, evolution and development."

GENETICS AND MEDICINE

Dr. Alan Gregg of the Rockefeller Foundation and a member of the Scientific Council of the New York Zoological Society suggested in *Science* (58:365, 1944) that the time is ripening for the application of genetics to the study of human disease and normal human physiology. As a natural concomitant of the increasing knowledge of human heredity, he believes we shall see a growth in the so-called "constitutional medicine" and that facts so obtained will illumine not only disease but innate functional capacities characteristic of different persons.

He wrote further: "Possibly medical research will, in the next decade or two, hold up its method of thought to critical review and analysis. I find the level of interpretation of data so painfully low that, for example, I should like to hear no one attribute a condition to any cause without being obliged to specify whether he meant the cause to be understood as the predisposing, the precipitating, or the perpetuating cause. If, as Francis Peabody insisted, a scientist is known by his mental processes, I believe that explicit and detailed research on the mental processes appropriate in medicine would bring great returns to research if only in the discipline it would establish."

COLIAS GENETICS

Dr. William Hovanitz has been particularly successful in studying the natural populations of butterflies. Writing in *Genetics* (29:1-30, 1944) he summarizes as follows: The genetic difference between the orange and yellow races of C. chrysotheme is a multiple factor one, as shown by interracial crosses. Hybrid individuals are usually fertile. The two races have a different larval diet necessity even though females of each have been recorded as laying eggs on nearly the same species of food plants. Sterility, sexual apathy, high mortality, and phenotypic alterations are the result of interchanging the normal food of the races. The yellow race is able to go into diapause during the middle of the larval stage; the orange race is not able to do so. The food necessity, diapause, and color differences between the races are genetically controlled but are not interchangeable between the races. However, yellow "orange-race" butterflies do occur rarely in pure orange race populations. Intermediates between the two are found in nature. The white gene is dominant and is readily and easily transferred from one race to the other. There is a lowered egg fertility in the interracial crosses and in the ensuing crosses between intermediates and backcrosses. This is partially accompanied by aberrant egg development.

In the second paper "The distribution of gene frequencies in wild populations of Colias," *Genetics* (29:31-60, 1944), Dr. Hovanitz found that the frequency distribution of white females in the orange race has been shown to change from 74 per cent in the North San Joaquin Valley to 13 per cent in the Imperial Valley. This change in frequency has been found to be largely correlated with the change in climatic conditions through the area. The greatest change in frequency between populations takes place where there is complete isolation between populations as well as climatic difference. However, an environmental selection for the alleles controlling the characters is shown to be present even when no isolation other than distance exists between the populations of the San Joaquin Valley.

LEUKEMIA

Dr. Arthur Kischbaum of the University of Minnesota Medical School writing on the subject, "Genetic and certain non-genetic factors with reference to leukemia in the F strain of mice" in *The Proceedings of the Society for Experimental Biology and Medicine* (55:147-149, 1944) found that, in crossing a high with a low leukemia strain of mice, the incidence of leukemia in the first generation hybrids and in backcrosses to the high leukemia strain was the same as in the high leukemia parent stock. The incidence of leukemia was reduced in backcrosses to the low leukemia strain. In all hybrid animals the age of appearance of leukemia was delayed, with a scattering of the age distribution in the heterogeneous second generation hybrids. There was no sex difference in the incidence of leukemia, and the age of appearance was the same for the two sexes. No "maternal influence" was found as in the case of breast cancer, to be operating in determining the appearance of leukemia.

FRANZ WEIDENREICH ON HUMAN EVOLUTION

(*The Skull of Sinanthropus Pekinensis: A Comparative Study on a Primitive Hominid Skull,* by Franz Weidenreich, Paleontologia Sinica, New Series D No. 10, Whole Series No. 110, published by the Geological Survey of China, 1943. New York, N. Y. G. E. Stechert and Company: 1-278, 38 tables, 93 plates, Index and Bibliography.)

"This massive and cumulative study of the human remains found near Peking," says Dr. Loren C. Eiseley of the University of Kansas in *Science* (99:408-409, 1944) "is without doubt the most significant and important treatment of the whole subject of fossil man to appear in many decades. Perhaps indeed, because of its wealth of new information, it is the most significant comparative study yet to be made in the entire field of human paleontology."

The book begins with an account of the discoveries at Choukoutien, their state of preservation, and an explanation of the methods employed in their restoration. Part II deals with the analysis of the bones. Variations, both sexual and individual, are noted, and the character of the Sinanthropus skull thoroughly established. Part III is devoted to a comparison of Sinanthropus with Homo soloensis, Pithecanthropus, Africanthropus, the Australopithecines, and other more recently discovered remains. Dr. Weidenreich details many new and pertinent observations upon these latter forms as well. In conclusion, he ventures extended general comment upon the course of human evolution in the light of the evidence available to our generation. Irrespective of some of the author's more tentative ventures into the unknown, the amount of anatomical detail available in the compass of this single volume makes it a priceless acquisition for the paleontologist and comparative anatomist. The book is more than a study of Sinanthropus. It is a vast and painstaking review of the whole subject of human evolution enlivened by an extremely thorough and original mind.

EVOLUTIONARY PROGRESS

Dr. Theodor K. Just of the University of Notre Dame summarized his paper: "The rates of evolutionary processes" in the *Proceedings* of the Indiana Academy of Science (53:14-27, 1944) as follows: "The term species is applied to groups of very different ecological and genetical status. As a result, speciation must progress by various modes and at different rates. Examples of estimated and known rates of evolutionary processes affecting both higher and lower systematic categories are presented, including cases of slow as well as rapid evolution. The compatibility of genetical and paleontological knowledge is also demonstrated. Although the occurrence of unstable genes, mutation rates, hybridization, ploidy, etc. are admittedly not the only effective evolutionary factors, they represent some of the most important agencies and indicators of evolutionary changes. Dr. Just believes that the rate of evolutionary processes differ so greatly that they can not be expressed in simple mathematical terms.

Drs. Curt Stern, Elizabeth White Schaeffer, and Warren P. Spencer of the University of Rochester abstracted their result in the paper, "The genetic basis of differences between two species of Drosophila" published in the *American Naturalist* (78:183-188, 1944) as follows: "Three females of Drosophila americana were separately crossed to male of D. virilis. The female offspring was crossed back for at least 23 single pair generations to virilis males in such a way as to result in three separate lines of flies whose cytoplasm was ultimately derived from americana but whose chromosomes were presumably identical among each other and with a line of pure virilis. The three virilized hybrid lines were compared with pure virilis line in order to test a possible autonomously reproduced influence of the americana-derived cytoplasm. Eight morphological and two physiological characters diagnostic in the differentiation of the two species were found to be identical in the hybrids and pure virilis. Fertility tests also gave no significant differences. It is concluded that the differences between the two species do not depend on self-reproducing extrachromosomal elements but on their chromosomes."

Dr. S. E. Luria of Indiana University explained "Mutations of bacterial viruses affecting the host-range and their relation to bacterial mutations" in *The Journal of Bacteriology* (47:416-417, 1944). The virus-resistant cultures, developing after lysis of a sensitive culture by a virus, have recently been proved to stem from bacterial mutations occurring independently of the action of the virus.

Dr. James R. Meyer of the University of Virginia made a survey of the Chromosomes of Phlox which was published in *Genetics* (29:199-216, 1944). He indicated that of the 264 forms of wild and cultivated Phlox studied, 201 were diploid ($2n=14$), 57 are diploid with from one to 13 additional small centric chromosomes ($2n=14+1-13ff$), five plants are tetraploids found wild ($2n=28$), and one plant is a triploid ($2n=21$). Among the hybrids are two diploids and four tetraploids. With two possible exceptions chromosomal studies have confirmed the established taxonomic relationships.

Dr. Theodosius Dobzhansky and B. Spassky continued the analysis of natural populations under the title of "Manifestation of genetic variants in Drosophila pseudoobscura in different environments" in *Genetics* (29:270-290, 1944). They state in summary that the sensitivity or lack of it toward temperature population density and uncontrolled variables are not correlated, thus giving rise to a large variety of norms of reactions among the chromosomes. Some of the homozygotes show viabilities superior to normal in some special environments, but no chromosome was found to be superior to normal in all environments. The viability and development rate of homozygotes are sometimes influenced by genetic modifiers as well as by environmental modifications.

According to Constantine Panunzio of the University of California writing in the *Milbank Memorial Fund Quarterly* (21:281-291, 1943) under the title of "Are more males born in wartime?" the answer seems to be in the affirmative.

"Heredity as an etiologic factor in chromic alcoholism" appeared in *Northwest Medicine* (42:110-111, 1943) under the authorship of F. Lemere, W. R. Broz, P. O'Hollaren and W. E. Tupper who claim that there is a positive history of inebriety in family backgrounds of 64 per cent of the alcoholics.

Dr. Tracy M. Sonneborn described an important cytoplasmic-genic relationship in the protozoan, Paramecium aurelia. Both a gene and a cytoplasmic substance are necessary if a particular hereditary character is to appear. "When," Dr. Sonneborn writes, "some of the cytoplasmic substance is present, the gene controls its continued production; but when the cytoplasmic substance is absent the gene can not initiate its production." If the organism has the gene but not the cytoplasmic substance, the character does not appear, but when the cytoplasmic substance is added the character does develop, and since the gene then controls this substance the character is maintained in succeeding generations. He thinks this sort of relationship may be significant in development and determination generally. He says: "All that is required to account for the production of different characters in different cells with the same genes is to have differential segregation of these cytoplasmic determiners at cell division." This summary is based on a paper by Dr. Sonneborn published in *Proceedings of the National Academy of Science* (29:329-343, 1943).

Dr. A. R. Mirsky of the Rockefeller Institute for Medical Research and Prof. A. W. Pollister of Columbia University, writing in the *Transactions of the New York Academy of Sciences* (II, 5:190-198, 1943), suggested

TABLE 1

	White	Colored	Chinese	Japanese*
	Per Cent	Per Cent	Per Cent	Per Cent
O	45.0	47.1	30.0	26.0
A	41.0	28.2	34.0	40.0
B	10.0	19.6	25.3	23.3
AB	4.0	5.1	10.7	10.7
M	29.2	29.0	23.3	30.0
N	21.2	28.3	22.0	16.6
MN	49.6	42.8	54.7	53.4

TABLE 2

	White	Colored	Chinese	Japanese*
	Per Cent	Per Cent	Per Cent	Per Cent
anti-Rh_0	85–87	95.5 (L) 92.0 (W)	99.3	98.0
anti-Rh′	70–73	46.0 (L) 29.2 (W)	93.0	85.4
anti-Rh″	30	29.2 (W)	no data	61.4

(L) indicates data of Levine[2]; (W) indicates data of Wiener.[5]
* This study.

TABLE 3

Reactions With				White	Colored	Japanese
anti-Rh_0	anti-Rh′	anti-Rh″				
+	+	+	Rh_1Rh_2	19.2	7.3	47.25
+	0	+	Rh_2	14.8	21.9	13.35
+	+	0	Rh_1	51.2	21.2	37.40
+	0	0	Rh_0	2.2	41.6	0.00
0	+	+	Rh′Rh″	0.0	0.0	0.66
0	0	+	Rh″	0.3	0.0	0.00
0	+	0	Rh′	0.8	0.7	0.00
0	0	0	Rh neg.	11.4	7.3	1.34

a possible means of interaction of nucleus and cytoplasm. Chromatin is "largely, if not entirely, composed of a unique substance, nucleohistone," and the chromosomal properties are really the properties of this chemical substance. Interactions might function in this way: "From the massive, indiffusible particles of nucleohistone small quantities of histone (a protein of relatively small size) are apparently constantly dissociating. If this process occurs in a living cell, and we have good reason to believe it may, it could play an important part in the mechanism of gene action for it would mean that a protein component of the chromatin is diffusing out to other parts of the cell."

PROGRESS IN RH BLOOD TYPE INHERITANCE

Doctors Robert K. Waller and Philip Levine of Flushing Hospital, N. Y. and Ortho Research Foundation, Linden, N. J., have tabulated the latest information on the distribution of (gene) frequencies with respect to blood types: It may be expected, they say, that the final theory of the heredity of the Rh antigenic complex will emerge from or be confirmed by the statistical analysis of the various phenotypes in many racial groups, as in the case of the four blood groups. The tables (p. 799) are taken from their paper "On the Rh and other factors in Japanese" published in *Science* (100:453-454, 1944).

ENTOMOLOGY

By Roger B. Friend

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DDT

The outstanding feature of interest in entomology to both professional entomologists and the public during the year was the development of DDT [2,2-bis (parachlorophenyl) 1,1,1-trichloroethane]. This material, the manufacture of which is patented in Europe and United States by a Swiss firm, was originally found to have insecticidal properties against both body lice and agricultural pests in Switzerland, but the great development of its use as for the control of body lice, mosquitoes, insects affecting livestock, and agricultural and forest pests has been and is being carried out by entomologists in this country. It is a superbly efficient chemical for the control of lice and adult and larval mosquitoes, and the only permitted use at present is by the armed forces. In the suppression of these pests, and the consequent control of typhus and malaria, it has proved its worth in the war areas (McCoy, *Science* 100, no. 2607). The history of its development has been outlined by Annand (*Journal of Economic Entomology* 37, no. 1) and by Froehlicher (*Soap and Sanitary Chemicals*, July, 1944).

The insecticidal value of DDT against pests of agriculture is well indicated by a series of publications by Annand *et al.* (loc. cit.). The compound is very stable, of low volatility, and low solubility in water, and acts as both a stomach and contact poison. It can be used in the form of either a spray or a dust, and the sprays are very adhesive and durable. In experimental work a dust containing 3 to 5 per cent DDT has given excellent control of many lepidopterous and coleopterous pests of crops, as the Japanese beetle, white-fringed beetle, Colorado potato beetle, potato flea beetle, European corn borer, cabbage caterpillars, tobacco hornworm, etc. Excellent control of codling moth has been obtained in spraying experiments. On the contrary, the material has not been very effective in controlling certain aphids, the Mexican bean beetle, the plum curculio, plant-infesting mites, and a few others. For the control of the gypsy moth in forests it is the most promising insecticide yet developed. It can be applied by airplane in small quantities per acre with excellent results (Sheals *et al.*, Annual Report, Gypsy and Brown-tail Moths Control, U.S.D.A., Nov. 15, 1944). As a soil insecticide Fleming and Mains (U.S.D.A., Bur. Ent. and P. Q., E 624) reported it to be 100 times as toxic as lead arsenate to Japanese beetle larvae. Little information is available about the toxicity to plants when applied to the soil and the durability of the insecticide in the soil. In spite of its great promise as an agricultural insecticide there are many details concerning its use that must be ironed out before it can be recommended generally to the public.

The nature of the toxic action of DDT to insects is not very clear. It affects the nervous system, and insects are killed not only when they consume it but also when they crawl over a surface coated with it. There are nerve receptors at the tips of the legs of insects, and the insecticide may act through these. According to Martin and Wain (*Nature* 154, no. 3912) DDT may be toxic because of chemisorption at vital centers, with interference with essential enzyme systems. However, intracellular decomposition is a preferable explanation. Toxicity may be due to HCl produced by elimination of reduction. Lipoid solubility is operative and is conferred on the molecule by the chlorophenyl groups.

The insecticide has some drawbacks. It is toxic to fish and Amphibia, and to a certain extent to warm-blooded animals (*Soap and Sanitary Chemicals,* Dec., 1944). Its toxicity to mammals, when taken orally, is apparently not of the order of lead arsenate, but heavy contamination of food should be avoided. In the dry form it is not toxic to mammals when in contact with the skin, and its use in aerosols also appears safe. When dissolved in an organic solvent and applied to the skin it penetrates with a toxic effect. It also kills such beneficial insects as honeybees and insect predators and parasites. Other insecticides, of course, also kill beneficial insects.

OTHER INSECTICIDES

Many investigators have worked on the problem of developing other suitable synthetic organic insecticides. Haller (*Jour. Econ. Ent.* 37, no. 3) has discussed the suitability of certain organic compounds for this purpose. King and Frear (*ibid.,* no. 5) have studied the relation of chemical constitution of some n-heterocyclic compounds to toxicity. Toxicity is related to the nature of the side chains. Swingle *et al.* (*ibid.,* nos. 1 and 5; U.S.D.A., Bureau of Ent. and P. Q., E 621) have preliminarily tested a large number of compounds on many species of insects. Only a very few were found at all effective. Questel (U.S.D.A., Bur. Ent. and P. Q., E 620) tested a number in the form of sprays on the European corn borer. There is a tendency for any one material of this nature to be somewhat limited in application when all factors involved in its use are considered.

Plant extracts have also been receiving some attention as insecticides. Lee and Hansberry (*Jour. Econ. Ent.* 36, no. 6) tested 35 species of Chinese plants and found two that looked promising. The kerosene extract of sabadilla seeds is reported by Allen *et al.* (*ibid.,* no. 3) to be highly toxic to houseflies.

Glasgow and Blair (*Jour. Econ. Ent.* 37, no. 2) discussed an interesting method of applying insecticides to forest trees by using explosive charges fired from mortars.

The application of aerosols in insect control is being investigated by several workers. Goodhue (*Jour. Econ. Ent.* 37, no. 3) discussed the subject in a general way, and Goodhue and Smith (*ibid.,* 36, no. 6, and 37, no. 2) tested a number of insecticides in aerosol form on mites and aphids in the greenhouse with promising results. The subject of aerosols as household insecticides and their merits as compared to sprays were discussed by several authors (*Soap and Sanitary Chemicals,* July, 1944). The extent to which the armed forces use aerosols for insect control (flies and mosquitoes) is indicated by the announcement that one manufacturer had furnished 7,000,000 "bombs" up to March 1, 1944. Barthel *et al.* (*ibid.*) described a more efficient method of extracting pyrethrins for aerosols by using nitromethane.

MOSQUITO CONTROL

The problem of protecting the armed forces against disease-carrying and pestiferous mosquitoes and the possibility that the return of soldiers from tropical areas might bring into the country malaria carriers with a resultant increase in malaria in this country have stimulated an interest in mosquito control. It should be emphasized here that the military authorities are taking all precautions against any danger of returned soldiers bringing about an increase in malaria among civilians. It is not possible to mention here all the publications concerning mosquitoes. Surveys to determine the prevalence of these insects have been conducted in many parts of the country and have increased our knowledge of the distribution, abundance, and ecology of many species. The health of military personnel in this country has been well guarded against mosquito-borne diseases (*Jour. Econ. Ent.* 37; *Jour. Nat. Malaria Soc.* 3). The perfection of mosquito control methods has even caused some to suggest malaria can be eradicated from this country. Excellent keys for the identification of anopheline mosquitoes have been published by Russell, Roseboom and Stone (American Entomological Society), Komp (*Nat. Inst. of Publ. Health Bull.* 179), Roth (*Amer. Midland Naturalist* 31), and Ross and Roberts (American Entomological Society). Soper, Wilson, Lima, and Antimes have published a detailed description of the organization of anti-*Aedes aegypti* measures in Brazil (Rockefeller Foundation), and Soper and Wilson (Rockefeller Foundation) have written an absorbing account of the struggle in Brazil to eradicate that most pernicious carrier of malaria, *Anopheles gambiae.* Bates (*Ecology* 25) has made an interesting contribution to the ecology of mosquitoes of the rain forests of Colombia in his study of the distribution of diurnal mosquitoes.

FLEAS

Much of the interest in fleas centers on the annoyance to man caused by these insects and the transmission of plague by them. Lindquist, Madden, and Watts (*Jour. Econ. Ent.* 37, no. 4) have shown that dimethyl phthallate, Indalone, and Rutgers 612, well known mosquito repellents, will repel fleas for several days when applied to the clothing. Brown has been particularly interested in fleas infesting rodents in Alberta in relation to sylvatic plague and has reported on the numbers of fleas found on ground squirrels (*Bull. Brooklyn Ent. Soc.* 39, no. 3) and on the burrowing owl (*Ent. News* 55, no. 1). This author has also published a list of the fleas of Alberta and their hosts (*Ann. Ent. Soc. Amer.* 37, no. 2). Ellison, Kohls and Mills (Montana State Bd. of Ent. *Misc. Publ.* 2) have published a list of the 64 species found on birds and mammals in Montana, and Joyce and Eddy (Iowa State Coll. *Jour. Sci.* 18) have listed those collected in Iowa. Jellison and Good (*Nat. Inst. Health Bull.* 178) have indexed the literature on the fleas of North America, north of Mexico and including Greenland.

PESTS OF AGRICULTURE

Two important insect pests of agriculture extended their range during the year. The European corn borer spread westward into Minnesota, through Iowa into Nebraska, and into Kansas. In the Middle West its range extends south into Missouri and Tennessee. The oriental fruit moth widened its area of distribution in California and has been found in Colorado, Utah, and Idaho.

The migration of injurious insects across the border from Mexico is always a possibility, and one of these, the Mexican fruit fly, a serious pest of citrus and other fruits, has been found in times past in the lower Rio Grande Valley. The United States, with the cooperation of the Mexican Government, maintains a laboratory in Mexico City devoted to research on the fruit fly. The work of this laboratory since its founding in 1928 has been reviewed by Baker, Stone, Plummer, and McPhail (U.S.D.A. *Misc. Pub.* 531).

Federal, state, and county officials, in cooperation with cattle raisers and the stock industry, have been engaged in a drive to reduce losses in the production of meat, milk, and leather by controlling the cattle grubs. The two species of this fly cost farmers about $100,000,000 per year in reduced weight gains and milk production, waste meat, and lower quality hides. The insects can be readily and cheaply controlled by the application of derris or cubé, but the habits of the insect and nature of the cattle raising industry require control over large areas if good results are to be attained. The results attained to date are so outstanding that further efforts to reduce the fly population will be vigorously pursued.

The control of other pests of livestock, as screwworms, lice, and flies have also been actively pursued.

The Kansas State Board of Agriculture published the *Common Insects of Kansas* (440 pp., 6 colored plates, 464 figs.) by Smith, Kelly, Dean, Bryson, and Parker. This is a fine general entomology dealing with Kansas insects, written for those interested in agriculture, with excellent illustrations.

INSECTS INFESTING STORED PRODUCTS

The protection of stored and processed food products from insect attack is a problem of paramount importance. Improvements in the methods of fumigating stored grain in bins and in the methods of packing dried foods are being sought. Cotton (*Jour. Econ. Ent.* 37, no. 3) discussed methods of storage, use of fumigants, and packaging. No commercially available glass- or metal-substitute packages are known to be insect proof (Linsley, *ibid.*), but improvements are quite possible. According to Essig, Hoskins, Linsley, and Michelbacher (*Jour. Econ. Ent.* 36, no. 6) the penetration of package materials permeable to odors is apparently favored by the presence of food, and insects with a propensity for boring are the best penetrators. None of the packaging materials tested by these authors was strictly insect-proof, although a heavy cardboard carton dipped in a thermoplastic material was quite promising. The origin of pests associated with stored food products and their transfer to these products, both factors of great importance in protecting food, were discussed by Linsley (*Hilgardia* 16).

INSECT PARASITES AND PREDATORS

In an interesting study of the effect of contamination by a parasitic species, DeBach (*Ann. Ent. Soc. Amer.* 37, no. 1) has shown that the housefly parasite, *Mormoniella vitripennis,* while seeking for host puparia scattered among grains of barley, contaminates the barley with the result that parasitism is markedly reduced. This effect is lost when the barley is washed with water and dried, the degree of parasitism then increasing to its original intensity.

Flanders (*Ann. Ent. Soc. Amer.* 37, no. 3) reported some interesting studies on *Comperiella bifasciata,* a parasite of scale insects which has two races, one an effective parasite of the red scale of citrus, the other of low fecundity on this host. The female host is susceptible to attack in all instars, but the male is susceptible in the first instar only. The optimal host stage is the second instar.

Macrocentrus ancylivorus is the most important parasite of the oriental fruit moth and is reared in the laboratory and liberated in peach orchards in many parts of the country. California has recently undertaken an extensive rearing program in its efforts to suppress the fruit moth there. In the East, Brunson and Allen (*Jour. Econ. Ent.* 37, no. 3) reported that mass liberations of this parasite have reduced the fruit infestation by fruit moth larvae by 50 per cent.

A recent notable contribution to the literature on parasites is Thompson's *Catalogue of the Parasites and Predators of Insect Pests,* published by the Imperial Parasite Service at Belleville, Ontario. The first three parts of the first section have been printed.

APICULTURE

Honeybees are essential to the production of fruit and seed and also produce honey and wax. They are, unfortunately, quite susceptible to poisoning by insecticides used to protect crops from other insects. Hambleton (*Jour. Econ. Ent.* 37, no. 4) discussed the role of bees in pollination, the complications involved, and the significance of such pollination in the production of seed. The nectar production of plants is an important factor in bee activities and the pollination of flowers as well as the production of honey is dependent on it. Vansell (*ibid.*) discussed the production of nectar by cotton and other plants in the Southwest in this respect, and Oertel discussed the variations in sugar content of the nectar in southern plants (*ibid.*). The poisoning of bees has aroused the concern of many entomologists interested in apiculture. Eckert (*ibid.*) has proposed methods of avoiding this danger. Filmer and Smith (*ibid.*) and Holst (*ibid.*, no. 1) demonstrated that DDT is both a stomach and contact poison to bees. The addition of creosote to insecticides has been proposed in the past as a repellent to bees, but Shaw and Bourne (*ibid.*) showed that this material injures the blossoms of fruit trees and does not give clean-cut results as a repellent.

The technique of artificially inseminating queen bees was developed some years ago, but the results attained are not all that is desired. The advantages of this procedure in breeding bees are obvious. Laidlaw (*Jour. Morph.* 74) discussed the morphological basis, with particular reference to getting semen past the valvefold, and gave the results of his experiments.

TERMITES

The fermentation of cellulose by the Protozoa inhabiting the alimentary tract of termites (Zootermopsis) has been studied by Hungate (*Ann. Ent. Soc. Amer.* 36, no. 4). The Protozoa ferment most of the glucose formed through the digestion of cellulose. The fermentation products formed are sufficient in amount for their oxidation to account for the observed oxygen consumption of the termite. It seems improbable that glucose is absorbed to any extent.

Light (Univ. Calif. *Public. in Zool.* 43) has found that the progeny of unmated females of Zootermopsis produced in the laboratory are females. It is doubtful, however, if parthenogenesis occurs in nature. The same author (*ibid.*) has carried further his studies of the ectohormonal control of development in Zootermopsis. The trend of evidence supports the theory that the presence of primary reproductives suppresses neotinic (supplementary) reproductives.

MORPHOLOGY

In the field of insect morphology a few contributions to our knowledge merit attention. Isely (*Ann. Ent. Soc. Amer.* 37, no. 1) has shown that a correlation exists between the morphology of the mandibles and the food habits of grasshoppers. Cook (*Microentomology* 9) has studied the morphology and musculature of the labrum and clypeus of insects with particular attention to the relation of external structure to the origins and insertions of muscles. The structure of the tegmina and wings in the Fulgoridae (Homoptera) was discussed by Fennah (*Proc. Ent. Soc. Wash.* 46, no. 7). Michener (*Ann. Ent. Soc. Amer.* 37, no. 3) published a study of the terminal appendages of male and female insects, and Crampton (*Bull. Brooklyn Ent. Soc.* 39, no. 1) discussed the importance of the terminalia in classification. Snodgrass (*Smithsonian Misc. Coll.* 104, nos. 1 and 7) has given an excellent description of the feeding apparatus of disease-carrying flies and other biting and sucking insects which affect man and animals, a matter of considerable importance at the present time.

In regard to the light-receptors of insects, Power (*Jour. Exper. Zool.* 94, no. 1) has shown that in Drosophila the reduction in the number of ommatidia is directly reflected in a corresponding reduction in the optic glomeruli. The effect is unilateral. The outer optic glomerulus is more profoundly affected than the inner two.

TAXONOMY

In the field of taxonomy a number of American entomologists has been interested in the fauna of tropical America. A large number of new species of many orders of insects has been described from all parts of this region. Certain groups have been treated extensively. Needham and Bullock published a paper on the Odonata of Chile (Field Museum of Nat. Hist., *Zool. Ser.* 24), and Carriker (*Proc. U. S. Nat. Mus.* 95, no. 3180) continued his interesting study of the Mallophaga infesting the Tinamidae, a family of birds. Blackwelder (*U. S. Nat. Mus. Bull.* 185) published the first two parts of his check list of coleopterous insects of Mexico, Central America, the West Indies, and South America, with a preface in English, Spanish, Portuguese, and French.

Numerous taxonomic and faunistic contributions to our knowledge of American insects have been published, some of them quite extensive and many interesting. Tinkham (*American Midland Naturalist* 31) has made a biological, taxonomic, and faunistic study of the shield-backed katydids (subf. Decticinae, Tettigoniidae) of the North American deserts. E. S. Ross (*Proc. U. S. Nat. Mus.* 94, no. 3175) published a revision of the Embioptera of the New World, with keys to families, genera, and species. H. H. Ross (*Illinois Nat. Hist. Survey Bull.*, vol. 23, art. I) wrote an excellent and beautifully illustrated account of the caddis flies (Trichoptera) of Illinois, discussing the biology, habitat preference, distribution, and classification. Tuthill (Iowa State College, *Jour. of Sci.* 17, no. 4) published a taxonomic study of the psyllids of America north of Mexico. Among other hemipterous studies that of Sailer (*Proc. Ent. Soc. Wash.* 46, no. 5) on the genus Solubea (Pentatomidae) and Froeschner's "Contributions to a synopsis of the Hemiptera of Missouri" (*Amer. Midland Nat.* 31, no. 3) should be mentioned.

In the order Coleoptera, Wenzel (*Zool. Series,* Field Mus. Nat. Hist., 28, no. 2) described several new genera and species of histerid beetles. Arnett's revision of Nearctic Silphini and Necrophorini (*Jour. New York Ent. Soc.* 52, no. 1) is based on the female genitalia and is well illustrated. Wolcott (*ibid.* no. 2) published a key to genera and a discussion of the generic classification of the subfamily Phyllobaeninae (Cleridae), a group of predaceous beetles.

In the Lepidoptera, McDunnough (*Mem. So. Calif. Acad. Sci.* II, no. 2) published a revision of the North American genera of the subfamily Plusiinae (Phalaenidae). The emphasis is on the male genitalia as taxonomically important structures. Capps (*Proc. U. S. Nat. Mus.* 93, no. 3159) discussed the geometrid moths closely related to the genus Ellopia, including four genera (three of them new) and 29 species and subspecies. Many of these are important pests of forest trees.

In the Diptera, C. P. Alexander continued his well known work on the crane flies and described in several journals many new species from all parts of North America. Johannsen, leading authority on aquatic midges, published a synopsis of the Ceratopogonidae, including a key to genera and a list of species (*Ann. Ent. Soc. Amer.* 36, no. 4). Hardy (Univ. Kansas *Sci. Bull.* 29) published an excellent revision of North American Dorilaidae (Pipunculidae), with keys to the subfamilies, genera, and subgenera of the world and to Nearctic genera and species. The same author revised the family Omphralidae as it occurs in North America (*Jour. Kansas Ent. Soc.* 17, no. 1). Sabrosky's revision of the acrocerid genera Ogcodes and Acrocera, parasites of spiders (*Amer. Midland Nat.* 31, no. 2), and Huckett's revision of the genus Hydrophoria, a group of muscid flies (*Ann. Ent. Soc. Amer.* 37, no. 2) should be mentioned here.

Any entomologist interested in the parasitic insects will find Townes' catalogue and reclassification of Nearctic Ichneumonidae invaluable (*Mem. Amer. Ent. Soc.* 11, part 1). Only the first part, including the Ichneumoninae, Tryphoninae, Cryptinae, Phaeogininae, and Lissonotinae has been published. Two other taxonomic papers dealing with parasitic Hymenoptera are also of great interest. Burks (*Bull. U. S. Nat. Museum* 93) dealt extensively with the chalcidoid genus Tetrastichus, parasites and hyperparasites of the eggs, larvae, and pupae of many species of insects. The males of this genus are rare or unknown. Gahan (*Bull. U. S. Nat. Mus.* 94) published a revision of two other chalcidoid genera, Arachnophaga and Encrytaspis.

Several taxonomic papers dealing with wasps and bees appeared during the year. Bequaert (*Entom. Americana* 23) published a key to the North American species of Ancistrocerus (Vespidae), a genus of solitary wasps, together with descriptions, distribution data, and notes on habits. Pate (*Amer. Midland Nat.* 31, no. 2) published a conspectus of the genera of pemphilidine wasps (Sphecidae). Bradley (*Trans. Amer. Ent. Soc.* 70) revised the Pompilinae (Pompilidae) of the Americas. Michener (*Bull. Amer. Mus. Nat. Hist.* 82, art. 6) wrote a very comprehensive treatise on morphology, phylogeny, and classification of bees. The keys carry through the subgenera.

REACTIONS TO EXTERNAL AGENTS

The response of adult and larval forms of insects to light was studied by Weiss *et al.* (*Jour. N. Y. Ent. Soc.* 52, no. 1). The peak response occurred at 3650 Å (ultraviolet) when equal intensities were used. Some response occurred to all wave lengths from ultraviolet to orange-red (6420 Å). Variations in response may be associated with different physiological states, perhaps owing to a depletion of the photosensitive substance in the visual sense cells. Behavior patterns can be changed by changing the intensities of illumination.

Frost *et al.* (*Jour. Econ. Ent.* 37, no. 2) studied the effects of infrared radiation on larvae and adults of certain species. Minimum lethal exposures were determined. Death appears to be the result of an increase in body temperatures. In the case of stored grain pests, a layer of material over the insects acts as a screen against the injurious effect of the rays.

Halberstaedter *et al.* (*Growth* 7) investigated the effect of x-rays on the development of *Calliphora* and *Culex*, the larvae being exposed. Lethal doses were determined. The difference in effect on the two species may be owing to the fact that cell division is more significant to the development of *Culex* than of *Calliphora*.

Roth (*Ann. Ent. Soc. Amer.* 37, no. 2) exposed various stages of *Tribolium confusum* to acetic and hydrochloric acids, both vapors and concentrated acids, and found that the type of abnormality produced depended on the stage exposed.

BEHAVIOR

Schneirla continued his studies on the behavior of ants (*Proc. Amer. Phil. Soc.* 87, no. 5; *Jour. N. Y. Ent. Soc.* 52, no. 1; *Amer. Mus.* 1253). Nomadism in the army ant, *Eciton burchelli,* arises through daily raiding forays. Certain extrinsic factors, together with a low threshold of excitability, are essential. Light stimulates raiding activity at dawn and accounts for the disappearance of raiding at dusk. The latter is essential to a bivouac change. The critical factor in determining nomadic movement is the internal condition of the colony. There is no evidence that movement of the colony is a reaction to scarcity of prey.

The functions of the *Eciton* queen serve indirectly as a pacemaking factor in the colony behavior pattern, the determining processes in a given colony centering around the reproductive properties of the single functioning queen. Colonies in a nomadic condition contain only a single brood in the larval stage, and the period ends when this brood has become enclosed in cocoons. In the statary period the brood is in cocoons, and this period ends when callow workers emerge. This correspondence between colony behavior and brood condition is explicable in terms of Wheeler's trophallaxis concept.

Schneirla also records a unique case of circular milling of *Eciton praedator*. The ants became marooned from a colony during a raid and milled in a circle 24 hours before they died. The fact that the circle shifted indicates that they were not solely following a chemical trail, and the significance of this is discussed by the author.

RACES OF COLIAS

Hovanitz (*Genetics* 29; *Ecology* 25) studied the races of *Colias* in North America. In the case of the color phases of *C. chrysotheme,* two physiological races occur. The orange race of this butterfly has extended its range with the growing of alfalfa. The range of the yellow race, which is common in the North, remains about the same as before Europeans came to this country, although it has increased in abundance where red and white clover are grown. The white genetic mutant of each race is common in the North. The difference in ecological distribution of the races is owing to genetic physiological differences: potentiality for diapause for winter hibernation of the yellow, different food distribution, and different environmental preferences. Hybrids between races are fertile, and intermediate fertile races occur. The author further discusses the distribution of gene frequencies and gives genetic data on the two races.

BOTANY

By Howard J. Dittmer
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EVOLUTION

Although the published work in evolution of plant species was extremely scarce in 1944 a few noteworthy books and papers came to the writer's attention. Komarov published a brief book on the origin of plants. In it he favors the Monroe theory of the origin of life on the earth and devotes much space to the life processes of the simplest existing organisms, such as the iron bacteria. The origin of the higher plants is attacked mainly from the evidences of Paleobotany.

An article on the structure and the origin of species was written by Camp and Gilly in which they emphasized the many different kinds of species with the hope that an understanding of speciation would lead to greater stability in nomenclature. Gunderson and Hastings provided a new approach to this subject in their paper on the interdependence of plant and animal evolution. They contend the relationships of the two groups would in turn affect their respective developments.

CYTOLOGY

Cytological investigations continued to be primarily interested in chromosome counts, chromosome variations, and anomalous cellular conditions brought about by various external stimuli.

Knoblach studied the chromosomes of *Bromus inermis* and found new variations in morphological characteristics. Chromosome counts confirmed a polyploid series within the species as recorded by others. D. T. Morgan reported a close correlation on the formation of chromocenters in interkinetic nuclei of maize by knobs and B chromosomes. Love investigated *Rumex lunaria* by making cuttings at various parts of the plant. In the subgenus *Acetosa* he reports tetraploid intersexual types as almost completely sterile, but the dioecious plants of *R. lumaria* are highly fertile. Chromosome numbers for 26 North American species of *Astragalus* were reported by Vilkomerson; half of these have a diploid number of 22; 11 have 24, one has 16 and another 44 chromosomes.

Sokolovshaya and Strelkova studied polyploidy under conditions in the Arctic and found a definite correlation between polyploidy and the extreme climatic conditions in the Arctic. The low per cent of polyploids (64) is explainable by the presence of a large group of Arctic alpine species originally from high mountain areas and characterized by diploidy.

A cytological investigation of *Ustilago Crameri* by Wang recorded meiosis occurring during germination of the spores either at the first or second division and occasionally in the third. Murneek and Wittmer studied synapsis and syngamy as stimulation processes of plant development. In sexual reproduction, particularly during chromosome conjugation (synapsis) and during nuclear union at fertilization (syngamy), metabolism and growth are stimulated.

Important plants also to undergo cytological studies this year were potatoes, guayule, rye, onion, lettuce, and various fungi. Economic importance was stressed by the careful selection of the plants studied and the attempts at improvement through polyploidy.

GENETICS

Many plants of great economic importance were used in the enlightening work done in genetics in 1944. Cytological studies were necessary to confirm the research conclusions by many investigators so that there is now much over-lapping between these two great fields of endeavor.

Barr and Newcomer reported that tetraploid cabbage contained 36.48 per cent more sugar, 23.86 per cent more ascorbic acid, and 32.62 per cent more colloidal N than diploid cabbage. The soluble N was higher in diploid plants by about 14 per cent. Haploid plants in sorghum, according to Brown, were characterized by slender stalks, narrow leaves, and highly sterile panicles. Kumar found that the pink-flowered type of *Salvia coccinea* has arisen by a recessive mutation from the scarlet form.

Dodds found that a single factor, an auxin, seemed to be the primary cause both of sterility of the female flower and parthenocarpy. He further discussed a breeding program, stressing the importance of the male parent, the synthesis of a suitable diploid male parent and the extraction of fertile diploids from existing edible triploids.

The Russian dandelion, *Taraxacum kok-saghys*, has been studied by men in many different botanical fields recently. One splendid research article was by Filippov who found that branched roots had a higher rubber content than the unbranched ones. The rubber content is in inverse proportion to the diameter of the root since the latex vessels are more centrally located.

Other work included hybridization, induced polyploidy, and selection. An interesting theory has been advanced by Nilsson-Ehle in his work with apples to produce a tetraploid variety. He reasons that the triploid apple is a better keeper than the diploid, and the tetraploid will probably be even better than the triploid.

ECOLOGY

Daubenmire and Slipp studied plant succession on two similar talus slopes of different exposure in northern Idaho and reported only one important species common to both seres. The first named writer also conducted greenhouse studies of soil temperature *versus* drought as a factor determining lower altitudinal limits of trees in the Rocky Mountains. He found that lethal surface temperatures for high-altitude species began between 40-45° C., while pinon pine was not killed by 70° C. Low altitude species tolerate soil drought because of the rapid rate of penetration of their tap roots.

Willis described the appearance of three species of *Acacia* and *Kennedya prostrata* in an area that for a decade was in grass and now recently turned over for an air raid shelter.

Paleoecological studies were prominent in the literature. One complete study was made by Hansen who described a peat deposit in east central Washington. The deposit is 8.8 M. deep and shows a change from lodgepole pine to grass and composite pollen to Ponderosa pine. Western larch was evident near the surface. A comparative study of three Indiana bogs was made by Keller. Potzger investigated the pollen of five bogs in Price and Sawyer counties, Wisconsin.

Reservoir silting studies were made by several individuals, among them Brown who described the known methods of control of reservoir silting, including watershed erosion control and control of sediment inflow. Johnston contrived a new and more sensitive method for measuring runoff which he calls tilt buckets for measuring runoff and erosion.

Succession studies were, as usual, evident in the ecological literature. Hunt recorded the succession of a floating mat on Goose Creek Reservoir, South Carolina over a 40-year period with indications for the future of other reservoirs in this area. Pasture studies and succession in Eastern Townships of Quebec were reported as well as a succession of abandoned agricultural land in the vicinity of New Orleans, La. Hall and Penfound described the migration and ecesis of the American lotus, *Nelumbo lutea.* Its growth can be arrested by recurrent cutting of leaves.

SYSTEMATIC

Tropical areas again played a prominent place in the taxonomic literature. Numerous new species and varieties were reported as well as a number of new genera. Sherff continued his work of the flora of the Hawaiian Islands by describing a new species of the genus *Scheidea. S. helleri* Isl. Kauai is the species, and five varieties of this species were reported from the Hawaiian Islands.

Couch described the algae of the Boston mountain region of Arkansas. He records approximately 250 species, including six new green algae.

Fungi were studied by many workers in the mycological field. Bingham and Ehnolich studied a *Dasyscypha* of uncertain identity encountered on blister rust cankers of western white pine. Several species of the genus were examined and records made of their morphology and host plants. Descriptions of several genera, and 30 species of tropical rusts were given by Cummins. Ray described five kinds of easily identifiable edible mushrooms in Oklahoma, including puff-balls, morels, the oyster mushroom, meadow pink, and the inky cap mushroom. Zandel reported on the Ustilaginales of the world. Many genera and species and their hosts are included. Martin included 106 species and 29 genera in his treatise of the Tremellales of the north central United States and adjacent Canada. He also wrote an article on "The Generic Name *Auricularia.*" Baker described heterokaryosis in *Penicillium notatum;* it occurs a few hours after spore germination through anastomoses or it may occur at the start if a conidium is binucleate and heterotypic.

The Bryophytes and Pteridophytes were well represented in the literature. Frye and Clark published a monograph on the Hepaticae of North America including 77 species and 15 varieties. Forty species of mosses were collected and reported by Haring of the Robert A. Bartlett Greenland expedition of 1940. Wickes lists 132 species and varieties of mosses collected in eastern Labrador. Fifty-four species of Pteridophytes and 14 members of the coniferales were found in the Yukon Territory of Alaska and northwest British Columbia by Anderson.

Many other papers are deserving of mention but in this short abstract it is impossible to even list the titles. Little mention has been made of the systematic work in the Spermatophytes, yet it is obvious that this group is the most prominent of all. Outstanding, perhaps, is the large amount of work reported from India and Australia where Systematists have been particularly active.

MORPHOLOGY AND ANATOMY

Interesting and progressive work was advanced in this field during 1944. Croizat discussed the concept of inflorescence. He gave general consideration to the phylogeny of the inflorescence and the morphology of certain floriferous axes. Davis described the prickle of *Aralia spinosa* as a mass of small cortical cells with an epidermal covering. Lignification hardens the cell structures. Schopf studied the embryology of Larix and found cleavage polyembryony, similar to that in pine. Allen investigated the embryogeny of *Pseudotsuga taxifolia* and compared the embryonic development with *Pinus* and *Abies*.

Artschwager and McGuire made a study of the morphology and anatomy of the Russian dandelion comparing it with our native types. The Russian species has larger latex tubes and a smaller xylem cove. Bailey compared the morphology of the Winteraceae. Chrysler described the vascular structure of the leaf of Gleichenia, paying particular attention to the anatomy of the branching regions. Esau gave a very critical review of the literature and her own interpretation of the origin and development of primary vascular tissues in seed plants. Lewis prepared a geometrical scheme of growth and division in epithelial mosaics.

Plymale and Wylie described the major veins in mesomorphic leaves. The total vein length averaged 102 cm. per sq. cm. of blade; 95 per cent of this length was in the minor veins. Foster described the structure and development of sclereids in the petiole of *Camellia japonica*. Douglas reviewed studies made of inferior ovary and included 280 references in her report. Steinbauer found twin embryos in Fraxinus seeds varying from 0.11 per cent to 0.13 per cent, depending on the species. Cormach noted the effect of environment factors on the development of root hairs in *Phleum pratense* and *Sporobolus cryptandrus*.

PHYSIOLOGY

The work in physiology is divided under separate titles because of the critical and technical phases of the investigation. This heading might be enzymes since most of the work here considered is of enzymic nature. Hirsch described the effect of *Penicillium notatum* on media. The enzyme liberated seems to be the same glucoseoxydase found in other molds but other molds do not liberate it. Enzymic processes were described in mushrooms (*Psalliota campestris*). The synthesizing action of the mushroom decreases with age while the hydralizing action becomes more pronounced. Bailey noted the effect of boron, copper, manganese, and zinc on the enzyme activity of tomato and alfalfa plants grown in the greenhouse. Curtis told of the exudation of glutamine from lawn grass following treatment with a 10-5-5 commercial fertilizer.

MINERAL NUTRITION

Various reactions of different plants to elements were noted by the many investigators in this field. Colwell described a biological method for determining the relative boron contents of soils. Peech and Bradfield studied the effect of lime and magnesia on the soil potassium and on the absorption of potassium by plants. Gauch and Wadleigh demonstrated the influence of saline substrata upon the absorption of nutrients by bean plants. Albaum and Umbreit studied phosphorous transformation during the development of the oat embryo. Bailey and McHargue raised tomatoes in purified cultures free of Cu. The tomatoes showed deficiency symptoms. Optimum concentration of Cu. was 0.05 ppm. for top growth and 0.01 ppm. for fruit formation. Hayward and Long noted some effects of sodium salts on the growth of Marglobe tomatoes. Hibbard made a study of the comparative amounts of zinc extracted from soils by a chemical solvent and by plants. Aronoff and Mackinney found that pyrrole derivatives did not promote chlorophyll formation in plants suffering from iron chlorosis. Thorne and Wallus described some factors affecting chlorosis on high-lime soils. Brenchley reviewed the role of minor elements and plant growth, and Twyman demonstrated manganese deficiency in oats.

GROWTH, DEVELOPMENT, AND REPRODUCTION

Whitney studied the effects of the composition of the soil atmosphere on the absorption of water by plants. Oxygen deficiency resulted in decreased transpiration; in the death of the tomatoes, tobacco, and coleus roots; and in diminished root hair development on the cotton, corn, and sunflower. Roberts observed a definite correlation between night temperature and blossom induction on some 240 varieties of plants. Stoutemyer treated greenwood cuttings of *Chionanthus retusus* with indolebutyric acid and produced very promising results. Foster induced a species of *Aechmea* to flower by placing plants in a tent exposed to a continuous flow of one part ethylene to 1,000 parts of air for 24 hours. The plants bloomed six weeks later on April 15.

Boynton and Compton aerated nutrient solutions up to 20 per cent of gas volume with oxygen and the balance N_2. The effect on apple, peach, and prune trees one year old was marked reduction of new roots. Top growth was closely correlated with root growth. Mader described some factors inhibiting the fructification and production of the cultivated mushroom, *Agaricus campestris*. Apparently the inhibiting substance is a class of hydrocarbons.

Loo and Wang cultured young conifer embryos in vitro. The agar medium permitted normal development for a time. Bulman described some hourly observations of tree growth made over a period of 70 weeks on a 34-year-old Bur oak tree. Went studied the rate of stem growth of tomatoes under controlled conditions and found it a fine indicator when the temperature was constant.

AUXINS, GROWTH SUBSTANCE

Beal treated ovaries of *Lilium regale* with 1 per cent mixtures of indoleacetic, naphthalenacetic, and naphthoxyacetic acids and with a combination of equal volumes of the three after removal of stigma and style. Growth continued as if pollination had occurred but after 500-600 hours the ovaries dried and withered. Neither embryos nor seeds with mature coats developed. Harmon found that, by treating grape cuttings with indolebutyric acid, rooting was benefited in some varieties but not in all.

The mechanism of auxin action was described by Berger and Avery. Cell-free dehydrogenase extracts were obtained from excised, living *Avena* coleoptile segments following auxin treatment. Marth and Hammer investigated vegetation propagation of *Taraxacum kok-saghyz* with the aid of growth substances. Indolebutyric acid and naphthalenacetic acid were somewhat more potent as root inducing agents than either naphthoxyacetic acid or naphthalene acetamide.

Addicott used 33 pure growth promoting substances to test pollen germination and pollen tube growth. Sixteen produced significant increases. Judson made a study of the *Avena* test and extraction methods used in plant hormone investigations and their application to horticultural problems. Various methods were attempted with varying results. Hammer, Schomer, and Goodhue described a new method of applying growth regulations to plants which is very similar to applying an insecticide.

GERMINATION DORMANCY

Clarke and Stevenson studied germination of potato seeds and found that varying temperatures from 20°-30° achieved best results. A constant temperature of 25° C. yielded poor germination. Boyd recorded the effect of the concentrated H_2SO_4 treatment on seeds of four species of sumac. Germination was increased as much as 68 per cent. Lammerts noted the effect of photoperiod and temperature on growth of embryocultured peach seedlings.

Johnson described the storage and artificial germination of forest tree pollens. Kriel investigated the rest periods of deciduous trees. By injecting 2½ per cent solutions of Na thiosulphate in an acid medium the rest period was broken and flower and bud emergence was hastened. Mills studied germination of the bud of sugar cane and Preston described the significance of the micropyle in relation to water entry in some leguminous seeds. More water enters the micropyle than through holes bored in the testa. Other papers were presented by well known investigators, including Eyster, Barton, Myers, and Raleigh.

RESPIRATION

Wohl and James described the energy changes associated with plant respiration. Plant respiration is accompanied by a continuous decrease of free energy. During its degradation the free energy of the sugar molecule produces numerous changes inside the living tissues, the most massive being chemical. Leach noted the effect of age and kernel size on the course of respiration of wheat during early germination studies. The effect of oxygen concentration on the respiration of a number of vegetables was noted by Platenius. Many other factors were studied by different workers, such as oxygen pressure, salt accumulation, light, carbon dioxide, and nitrogen to determine the rate of respiration.

OSMOSIS AND PERMEABILITY

Work in this field centered about the cell. The permeability of the cellulose cell wall was described as well as the osmotic and vitalistic interpretations of exudation. The hypocotyl of *Helianthus annuus* was found to have the greatest turgor pressure in mature cells. Investigators in the field included Beck, Andrus, Eaton, and Skene.

RADIATION EFFECTS

Phototropic experiments and hybridization to procure the desired results occupied most of the experimenters interests in this field in 1944. *Taraxacum kok-saghyz* was found to have a long day photoperiod and also flowered best under cool temperatures.

Allard described a long day plant from Australia—*Nicotiana gossei*. It is one of the few species of tobacco of this type since most others are day neutral or short-day. Allard and Zaumeyer studied responses of beans and other legumes to length of day. In hybridization, day-neutral plants are usually the object to promote earliness and extension to all latitudes.

PHOTOSYNTHESIS AND PIGMENTS

The interrelationship between the compensation point, temperature coefficient, and growth of *Azolla filiculoides* was studied by Ahmad under controlled conditions. Growth decreased in all intensities of light with an increase in temperature.

Lissyzin described the interconversion of sucrose and starch in the plant cell. Possibly the transformation of starch into sucrose proceeds through monose formation as the intermediate stage. The physiology of trees with special reference to their food supply was investigated by Heinicke. He found regeneration of roots occurred best where oxygen concentration was 15-20 per cent. He also discussed drainage, grass cover and nitrogen supply, and sprays in the same connection.

Freeland noted that photosynthesis occurred in some conifers during winter. This process was evident down to —6° C but apparently was exceeded by respiration below this temperature.

Various pigments were described in different plants. Frey-Wyssling and Blank described the isolation of Anthocyanin from red cabbage. Strain and Manning described a polyene pigment of the marine diatom *Navicula torquatum*. Also described by other writers was the separation of B-carotene, neo-B-carotene, and xanthophyll from dried grass, pasture grass, and silage.

ECONOMIC BOTANY

By H. K. Wilson
Professor, University of Minnesota

GENERAL

The present world conflict has focused the attention of the public more on the importance of agricultural production than ever before. The great significance of food plants is well appreciated by the military as well as by the civilian populace. The various plants which yield fiber and forage are also serving in the emergency. The American farmer has worked long hours to give us the maximum possible production. The place of economic botany is so vital that it deserves unusual attention in these years of world crisis. It is impossible within the limitations of space to present all worthwhile contributions but it is believed that a discussion of the more important ones will serve to portray economic botany in war time.

FATS AND OILS

The value of fats and oils in the war effort is well appreciated. The American farmer is expected to fill the gap resulting from the loss of important imports of these products. How well he has succeeded in providing these materials is a matter of history. An excellent treatment of the interest of farmers in fats and oils has been prepared by Cox (*Minn. Agr. Exp. Sta. Bul.* 376, 1944). In Minnesota, more than one-half of the annual cash income comes from the fat- and -oil-bearing products, chiefly milk, hogs, and flax.

The bulletin includes a most interesting discussion of the outlets for various fats and oils. These may be divided into animal and vegetable oils. The animal fats and oils were used as follows: edible tallow was employed primarily for the manufacture of shortenings; inedible tallows and greases were used largely in the manufacture of soaps; oleo oil entered into cooking oils and oleomargarine; oleostearine was used in shortenings and other edible products; fish oils went into the manufacture of soaps and in the drying industry and for related products; and whale oil entered largely into the manufacture of soaps.

The vegetable oils are of great importance. Barbassu oil from the barbassu nut has been imported from Brazil. It was used primarily for soap and in the manufacture of margarine and other foods. Castor oil was used as a drying oil largely to replace tung and perilla oils. Coconut oil, which is no longer available in large quantities, was largely used in the manufacture of soap with considerable amounts utilized in cooking or in food products such as margarine. Corn oil was extensively used as a salad or cooking oil. Cottonseed oil was used largely in shortenings, margarine, and other edible products. Linseed oil was used primarily in the paint industry although it is suitable as an edible oil. Olive oil is used primarily as a cooking oil. Most of the palm oil used in America comes from the East Indies or from Africa, and is used in shortenings and soaps. Peanut oil is used in the manufacture of food products or as a cooking oil. Most of the perilla oil was obtained primarily from Japan and was used in the drying industry. Soybean oil has increased in importance during the war; although primarily used in edible products it has been substituted to a considerable extent for linseed oil. Tung oil from the tung tree was used in the drying industry. Only a small amount of tung oil is produced in America. Most of the same oil imported from Europe and Asia was used as an edible product. Rape, an oil of relatively little importance imported from the Far East, was used in the manufacture of various industrial products and as a food oil.

As an important oil bearing crop the peanut is receiving more than usual consideration. Hendrix *et al* (*Georgia Agr. Exp. Sta. Bul.* 228. 32 pp. 1943) have outlined the production possibilities in Georgia. The returns from peanuts compared favorably with cotton and other competitive crops based on a yield of 909 pounds of peanuts per acre with a return of $40 as compared with about $30 per acre from cotton yielding 240 pounds per acre. The increased use of power machinery should reduce the labor and other production crosses.

CROP IMPROVEMENT WORK

Crop improvement work is playing a vital part in helping to win the war. In an address before the American Society of Agronomy, Dr. M. A. McCall (*Jour. Amer. Soc. Agron.* 36: 717-25. 1944) outlined the place of crop improvement as a weapon of war and an instrument of peace. Attention was called to a few of the more significant contributions the result of improvement work by the nation's plant scientists.

HYBRID AND WAXY CORN

The development of the hybrid corn program has been phenomenal in its effects. In each year for the period 1938 to 1943, inclusive, 50 per cent or more of the corn acreage in each of the five states of Iowa, Illinois, Ohio, Indiana, and Minnesota was planted to hybrid varieties. It is estimated that during the six-year period hybrid varieties resulted in an increase of 2,393,397,000 bushels of corn in the five states. Dr. McCall pointed out that the estimated increased yield in the United States from hybrid corn in 1943 was equivalent to 7,364,280,000 pounds of pork, an amount that would provide 54 pounds of meat for each man, woman, and child in the United States.

Although hybrid corn is now widely grown in the principal corn producing areas of the United States not all understand the principles involved. An excellent discussion of the development of hybrid corn with planned objectives and methods used by the Minnesota Agricultural Station has been prepared by Dr. H. K. Hayes (*Minn. Farm and Home Sci.* 1: 15-16. 1944) one of the worlds leading plant breeders and a pioneer in the corn improvement work.

An important addition to meet our war needs is the so-called waxy corn which has proved to be a worthy substitute for tapioca. Kiesselbach (*Jour. Amer. Soc. Agron.* 36: 668-82. 1944) reports that waxy corn appears to be especially suitable since it can be milled with the same equipment already used for ordinary corn. Field trials during three years in eastern Nebraska have shown that several of the waxy corns possess commercial possibilities. Iowax 1 has proved most productive during the two years under test. Because of the very limited specialized demand for the waxy type of starch, the author suggests that care be taken to avoid overproduction and that the crop be grown under strict contract.

OATS PRODUCTION

The distribution of the new smut and crown and stem-rust resistant oat varieties, Vicland, Tama, Cedar, Boone, Vikota, Control, and Marion, has greatly increased the oats production in the United States. Where rust is a problem, these varieties have yielded on an average of 10 to 25 bushels or more per acre above the yields of varieties which they have replaced. It is estimated that the improved varieties may increase the annual oats production by at least 75,000,000 bushels, thus releasing at least 2,500,000 acres of land for the growing of other emergency war crops without a decrease in oat production.

SOYBEANS

The soybean has served well during the critical shortages of fats and oils. Great increases have been made in acreages and total production. It is expected that some 225,000,000 bushels of soybeans will be produced in 1944, providing for approximately 1,400,000,000 pounds of oil which is roughly three-fourths of the nation's prewar annual fat imports.

DISEASE RESISTANT WHEAT

Disease resistant wheat varieties have played a most important part in wartime agriculture. Dr. McCall estimated that stem-rust resistant wheat varieties were responsible for an additional production of some 100,000,000 bushels of hard red spring wheat in 1942. In 1914, more than 300 threshing machine separators exploded and burned in eastern Washington alone as a result of severe smut infection. The infection ran as high as 50 to 75 per cent. In 1931-32, 36.7 per cent of all carload receipts of wheat at Spokane, Columbia River, and Puget Sound terminal markets graded smutty. Five years later, 1936-37, some 16.7 per cent graded smutty while in 1943-44 only 2.3 per cent graded smutty.

Ausemus *et al* (*Minnesota Agr. Exp. Sta. Tech. Bull.* 166. 1944) report on a new disease resistant hard red spring wheat, Newthatch. The new wheat was developed by backcrossing Thatcher wheat with Hope.

The new variety has proved outstanding in yield and possessed of milling and baking characteristics that should make it acceptable to the milling industry. It is resistant to both stem and leaf rusts. Newthatch was distributed to a few Minnesota farmers in 1944 and should replace the Thatcher variety within a short time.

SPRING WHEAT

The North Dakota Agricultural Experiment Station has released a new high yielding spring wheat. According to Waldron *et al* (*North Dakota Sta. Circ.* 68, 1944) the new variety, Mida, has outyielded Pilot, Thatcher, Rival, and Renown in North Dakota trials since 1939. It has stronger straw than Rival and is slightly earlier. In field trials Mida has proved to be highly resistant to stem and leaf rusts and to stinking smut. The large, dark red kernels give a good test weight and the milling and baking qualities have proved satisfactory. Mida was produced cooperatively by the North Dakota Station and the United States Department of Agriculture out of a cross between a selection from the three-way cross Ceres x (Hope x Florence) and a Canadian wheat, R. L. 625.

POTATOES

Other than wheat, probably no crop plant is eaten so generally by the average American as the potato. A very complete study of the quality, adaptability, and disease resistance of potato varieties has been made by Jehle and McPheeters (*Maryland Agr. Exp. Sta. Bul.* X2. 19 pp. 1944).

Under Maryland conditions, Irish Cobbler was the best early variety. Triumph and Earlaine were satisfactory early varieties, but because of their susceptibility to the virus diseases it was difficult to obtain disease-free seed stock. Chippewa and Katahdin were satisfactory medium-late varieties. Sequoia, a late variety, gave the highest yields. It was resistant to late blight, mild mosaic, and to damage by leafhoppers and flea beetles, but very susceptible to late blight rot and leaf roll.

The dry, mealy types of potatoes were best for baking and mashing, and the waxier varieties were most suitable for creaming and for salads. Tubers moderately mealy and waxy stored for several weeks between 50° and 70° F. were best for French fries or potato chips. On the basis of variety, Triumph, Spaulding Rose, Irish Cobbler, and Dakota Red were best when steamed. The best varieties for salad were Chippewa and Katahdin. For baking, the leading varieties were Smooth Rural, Triumph, Green Mountain, Russet Burbank, Sequoia and Up-To-Date. For French fries the leaders were Spaulding Rose, Smooth Rural, Russet Rural, Warba, and Chippewa. Boiling varieties were Green Mountain, Smooth Rural, and American Giant. The general public is usually most interested in those varieties best suited for general purposes. These were Irish Cobbler, Green Mountain, McCormick, Triumph, Smooth Rural, Warba, Sebago, and Earlaine.

SWEET POTATOES

In the South, the sweet potato largely replaces the Irish potato so widely used in other sections. A very complete treatment of varieties, culture, diseases, and the use of fertilizers has been prepared by Drain *et al* (*Tenn. Agr. Exp. Sta. Bul.* 189. 24 pp. 1944). Nancy Hall was the highest yielding variety in the trials at Clarksville. In general, the earlier the crop was planted, the greater was the yield. The most important diseases of the sweet potato in Tennessee are stem rot and black rot. These are described and methods of control are outlined. On the uplands of Tennessee a complete fertilizer has given best results although superphosphate alone has usually proved effective and profitable. On soils naturally well-supplied with phosphate, highest yields were obtained from the plowing under of legumes.

SUGAR BEETS

During the present war, with the attendant shortage of sugar, the attention of scientists has been focused on the need for the maximum production of sugar. While the sugar beet has been available for only a portion of our total sugar demands, it is of added importance in war times. A number of interesting and valuable contributions were made at the last meeting of the American Society of Agronomy in Cincinnati, O. in November, 1943.

Mervine (*Jour. Amer. Soc. Agron.* 36: 553-57. 1944) reported on the importance of mechanization of the sugar beet industry. For many years, the hand labor required to grow beets has been a limiting factor in their production. Mervine presented data to show that an expenditure of $5 per acre for machinery resulted in a labor saving of $30 per acre. The elimination of the need for transient labor should stabilize the farm program.

Culbertson (*Jour. Amer. Soc. Agron.* 36: 558-65. 1944) showed that seed treatment of sheared seed resulted in a 40 per cent increase in stand when the crop was planted at the normal time in the spring. Also shallow planting favored early emergence and reduced the danger of damage to stand as a result of soil crusting.

Owen (*Jour. Amer. Soc. Agron.* 36: 566-69. 1944) gave the breeding possibilities with sugar beets. The development of biotypes with unilocular seed balls would prove of great benefit, and the author suggests further work in this direction.

Brewbaker (*Jour. Amer. Soc. Agron.* 36: 570-75. 1944) discussed the adaptation of the sugar beet to meet the needs of the sugar industry in America. He outlined several of the problems of the industry and progress that has been made toward their solution. Breeding programs will probably move toward more inbreeding with the use of multiple-cross and back-cross technics.

Skuderna (*Jour. Amer. Soc. Agron.* 36: 576-83. 1944) in discussing sugar beets in the war and post-war periods from the standpoint of the beet sugar industry stated that the industry is confident that mechanization of sugar beet culture is desirable. He noted that the implement manufacturers were investing large sums of money in the construction of machinery suitable to the changes in sugar beet production methods.

ALFALFA

The layman has heard much about hybrid corn but it is comparatively recently that some of the methods and principles involved in the production of hybrid varieties have been extended to other normally cross-fertilized crops. Tysdal and Kiesselbach (*Jour. Amer. Soc. Agron.* 36: 649-67. 1944) have outlined the use of controlled hybridization in the improvement of alfalfa. The commercial production of hybrid seed is fairly simple. Four pre-determined clonal lines are used in making the commercial double-cross. These lines are propagated by cuttings rather than by seed. It is necessary to use two crossing fields to produce the two single-cross parental stocks. In each field the two clones are space planted in alternate rows so as to bring about the maximum hybridization. Seed of the two single-crosses are planted in alternate rows to produce the double-cross seed. The seed that is produced is the commercial hybrid seed.

PASTURE IMPROVEMENT

The importance of the pasture as an economic unit of the farm set-up has not been fully appreciated by all farmers. The tendency has been to relegate the pasture crops to those areas unsuited to the production of other crops. While this is desirable in many cases it is not advisable to leave the pasture plants to grow as best they may with little or no management. Workers at the Wisconsin Agricultural Experiment Station have done much to further pasture improvement.

Ahlgren, *et al* (*Jour. Amer. Soc. Agron.* 36: 121-31. 1944) report on renovation trials which included the tillage of the pasture with a cultivator disk and harrow, followed by acre applications of 2 to 3 tons of ground limestone, 125 to 150 pounds of calcium metaphosphate (63%P_2O_5) and muriate of potash (50%K_2O). Treatments were made prior to disking the land. A mixture of 15 pounds of inoculated common sweet clover (½ white blossom and ½ yellow blossom) and 5 pounds of inoculated red clover was seeded in early May at the rate of 20 pounds per acre.

Grazing management was designed to obtain the maximum utilization of the forage but assuring its continued growth and maintenance.

On slopes of 15 to 25 per cent and 26 to 35 per cent the renovated pastures provided 176 cow pasture days per acre in 1941 as contrasted with 83 cow pasture days for the untreated areas. In 1942, the two slope classes which were renovated provided 102 and 88 pasture days, respectively while the untreated fields gave 72 and 60 days respectively. In 1941 the renovated pastures on the 26 to 35 per cent slope yielded 5,019 pounds of dry matter per acre while the comparable untreated area yielded 3,000 pounds of dry matter, an advantage of 2,019 pounds in favor of the renovated area.

The herbage on the renovated pastures was more uniformly distributed throughout the growing period than was that of the untreated pastures. In 1941, the dominant vegetation in the renovated areas was sweet clover. In 1942, it was Kentucky bluegrass, red clover, and redtop.

Weed growth and white grubs were reduced by renovation. In 1942, the six treated areas had 74.9 per cent less weeds than the unrenovated pastures and the grub population was 56.8 per cent lower as a result of treatment.

Ahlgren *et al* (*Jour. Amer. Soc. Agron.* 36: 301-15. 1944) give the results of several years' experimentation on the fertilization and management of permanent pastures. They concluded that occasional renovation and fertilizing are essential to the maintenance of permanent pastures in a high state of productivity.

FERTILIZERS

The nutrient needs of crop plants become an ever increasing problem with the passing of time. In no area of the country are the problems relating to the use of fertilizers more important than in the South. Drake (*Jour. Amer. Soc. Agron.* 36: 1-9. 1944) in studies of the nutrient balance in corn growing in southern states, as shown by the Purdue plant tissue technic, found nitrogen to be the major limiting factor in the production of corn. It was indicated that the practice of growing corn without adding nitrogen until about 40 days after planting generally resulted in nitrogen starvation during the early growing period. Where cotton or other well-fertilized crop did not precede the corn crop, the corn plants tested very low in phosphorus. For the most part the amounts of phosphorus and potassium were adequate to balance the limited supply of nitrogen. The author states that approximately two pounds of nitrogen fertilizer are required to produce one bushel of corn both in the Southern States and in Indiana.

MILKWEED FLOSS

During the war period the Navy is unable to obtain the kapok formerly used in the making of the essential life saving belt. Today the youth of America, as well as many adults, are meeting the emergency through the collection of milkweed floss which serves as a satisfactory substitute for the kapok formerly used. Gunning (*U. S. Dept. Agric. Soil Conserv.* 9:195-200. 1944.) has given an account of the progress of the program. A report on the methods of gathering and storing milkweed floss has been prepared by the U. S. Department of Agriculture (U.S.D.A. A.W.I.-94. 8 pp. 1944).

WEED CONTROL

The control of weedy plants is a never ending problem of the farmer. The costs of producing crops are greatly increased as a result of the occurrence of a multitude of species which interfere with every type of crop plant. A considerable portion of the more important literature on the control of weeds has been summarized by Wilson (*Bot. Rev.* 10:279-326. 1944).

PLANT BREEDING

The person interested in the advance in plant breeding and the use of modern statistical analysis will benefit from the text, *Methods of Plant Breeding* by Hayes and Immer (McGraw-Hill, New York. 1942). The book deals with the role and genetic and cytogenetic bases of plant breeding; the relationships between methods of reproduction and the methods of breeding; latest techniques of selfing and hybridizing plants; the use of the pure line method of breeding to self-pollinated plants; the place of the back-cross method; methods of breeding for disease and insect resistance; how characters are inherited in various economic crops; the bases for corn improvement using the latest methods and techniques; field plot technique applied to experimentation; the use of randomization as an adjunct to research; and a complete discussion and illustration of the various tools used by the biometrician in the analysis of results. The book should prove of great value not only to the student but to the worker in the field of plant breeding.

A new book of interest to the southern agriculturist is *Southern Field Crops Management* by Fergus *et al* (Lippincott, Chicago, 1944). This well-prepared text covers the principles and methods of producing the various crops grown in the southern part of the United States.

PERIODICAL PUBLICATIONS

American Botanist
5257 Hinesley Ave., Indianapolis.
American Journal of Botany
Botanical Society of America, Burlington, Vt.
American Naturalist
Science Press, Lancaster, Pa.
American Scientist
Yale University, New Haven, Conn.
Annals of the Entomological Society of America
Ohio State University, Columbus.
Botanical Gazette
5750 Ellis Ave., Chicago.
Botanical Review
Botanical Garden, New York City.
Ecology
1000 Washington Ave., Brooklyn, New York City.
Journal of Economic Entomology
College Park, Md.
Journal of Experimental Zoology
36th Street and Woodland Ave., Philadelphia.

Journal of Mammalogy
University of Michigan, Ann Arbor, Mich.
Journal of Morphology
36th Street and Woodland Ave., Philadelphia.
National Horticultural Magazine
American Horticultural Society, Washington, D. C.
Quarterly Review of Biology
Mount Royal and Guilford Aves., Baltimore, Md.
Science
Smithsonian Institution Building, Washington, D. C.
Scientific American
24 West 40th Street, New York City.
Scientific Monthly
Smithsonian Institution Building, Washington, D. C.
Yale Journal of Biology and Medicine
New Haven, Conn.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

Academy of National Sciences of Philadelphia, 1900 Race St., Philadelphia, Pa.
American Association for the Advancement of Science, Smithsonian Institution Building, Washington, D. C.
American Assn. of Economic Entomologists, College Park, Md.
American Assn. of Museums, Smithsonian Institution, Washington, D. C.
American Microscopical Society, Kansas State College, Manhattan, Kan.
American Museum of Natural History, Central Park W. and 77th St., New York City.
American Nature Assn., 1214 Sixteenth St., Washington, D. C.
American Nature Study Society, 5540 Pershing Ave., St. Louis, Mo.
American Ornithologists' Union, Ohio State University, Columbus.
American Phytopathological Society, Bureau of Plant Industry, Washington, D. C.
American Society of Naturalists, Ann Arbor, Mich.
American Society of Zoologists, University of Chicago, Chicago, Ill.
Boston Society of Natural History, 234 Berkeley St., Boston, Mass.
Botanical Society of America, Osborn Botanical Laboratory, Yale University, New Haven, Conn.
Carnegie Institute, Pittsburgh, Pa.
Chicago Museum of Natural History, Roosevelt Road and Lake Michigan, Chicago, Ill.
Entomological Society of America, Columbus, Ohio.
Eugenics Research Association, Cold Spring Harbor, New York.
Franklin Institution, Benjamin Franklin Parkway at 20th Street, Philadelphia, Pa.
Genetics Society of America, Ohio State University, Columbus, O.
Museum of Comparative Zoology, Cambridge, Mass.
National Audubon Society, 1006 Fifth Ave., New York City.
New York Microscopical Society, American Museum of Natural History, New York City.
New York Zoological Society, 630 Fifth Ave., New York City.
Paleontological Society of America, American Museum of Natural History, New York City.
Reptile Study Society of America, Inc., 536 E. 84th St., New York City.
Shaw Botanical Gardens, St. Louis, Mo.
Southern California Academy of Sciences, Los Angeles Museum, Exposition Park, Los Angeles, Calif.
United States National Museum, Tenth and Constitution Ave., Washington, D. C.

DIVISION XXIII

MEDICAL SCIENCES

MEDICINE, PATHOLOGY, PHYSIOLOGY

By Max Trubek
Associate Visiting Physician, Bellevue Hospital, New York

GENERAL

The year 1944 witnessed progress in the successful application of penicillin to a number of important diseases of chronic nature whose control represents another milestone in medical progress. This drug is being produced in larger quantities by improved methods of culture and extraction. It has been made available for all diseases where its use is reasonably justifiable. Great progress has been made in the control of louse-born typhus fever by the use of the Army's new lousicide. After the war it will become available for use in preventive medicine and on the farm as a most effective insecticide. Several new drugs have received widespread clinical trial and now represent important additions to medical therapeutics.

PENICILLIN IN TREATMENT OF SYPHILIS

During 1943 it was demonstrated that penicillin was effective in early syphilis in rabbits and men. This drug, for all practical purposes completely non-toxic, appeared to be curative in early syphilis when administered within the brief period of eight days. There was initial promise that a rapid cure of early syphilis had been discovered which was completely safe, lacking all the hazards of arsenic and bismuth. Fortunately for penicillin and the advancement of knowledge concerning it, our country is engaged in a great war. The problem of syphilis, especially early syphilis, is of paramount importance to the armed forces; for the sake of conserving manpower, it is urgent to determine quickly the optimum method of use of this new and revolutionary drug. An organized investigation was essential rather than distribution of the drug for independent studies.

This was brought about through cooperation of the U. S. Army, Navy, and Public Health Services and the Committee on Medical Research of the Office of Scientific Research and Development, under the general auspices of a Penicillin Panel approved by the subcommittee on Venereal Diseases, National Research Council. Together with the Army, Navy, and Public Health Services, some 25 civilian clinics were invited to participate in a study of the effect of penicillin in early and late syphilis, the results in early syphilis to be pooled and statistically analyzed as a group. Both in clinic and laboratory are progressing comparative studies of the several penicillin salts, sodium, calcium and ammonium; methods of prolonging the action of the drug; and other important pharmacological investigations. The urgency of the military situation does not permit, however, that the application of penicillin to the treatment of syphilis in human beings be postponed until all available information can be had from experimental animals. Experimental studies must progress simultaneously in men, and are rendered particularly feasible because of the almost complete lack of toxic effects from the use of this drug.

The problem of special importance to the Armed Forces are early, latent, and neurosyphilis. Most of the clinical emphasis has thus far been placed on the two of these in which results are readily measurable, early and neurosyphilis. In early syphilis all cooperating clinics have agreed to work on assigned treatment schedules devised to investigate the effect of the several variables of (1) the route of administration, (2) the interval between injections, (3) the total duration of treatment, and (4) the total dose of the drug. Early effort has been centered on these four factors, in order to determine as rapidly as possible the effect of penicillin alone. The fifth variable, the effect of penicillin in combination with other agents (arsenic, bismuth or fever), has as yet barely been touched, clinically, though it is of course under laboratory study (quoting from a report by Dr. Joseph E. Moore).

The results to date permit a number of generalizations. A single injection of penicillin by any route of administration and in whatever amount, is practically ineffective in early syphilis of man or animal; multiple injections are necessary. The intramuscular route of administration of aqueous or saline solutions of penicillin is at least equal to the more difficult method of intravenous injection as regards effective blood concentration. The optimal interval between single intramuscular injections ranges from three to six hours. The intraspinal injection is not necessary in neurosyphilis. The drug need not penetrate into the spinal fluid; it reaches the diseased portion of the brain by way of its blood supply. Several thousand patients have been treated but only several hundred have been followed for six months or longer. With continuous intramuscular injections given every three hours, spirochetes disappear from open lesions within an average time of 12 hours, lesions healed with great rapidity, and there was a rapid trend toward reversal of the blood serological test.

The important factor, however, is the incidence of relapse, either clinical or serological. The determination of this relapse rate is only possible after the passage of many months of time. Within the range of present studies the relapse rate is in inverse ratio to the total dosage; the lower the total dose, the higher the relapse rate. Using a standard time of 7½ days and with 1,200,000 units, the relapse rate was 15 to 20 per cent which approximates the best results with the older methods of treatment in similar cases, whether given by the intensive or prolonged systems. Penicillin holds the inestimable advantage of freedom from all the serious risks of toxemia of arsenic and bismuth chemotherapy which are particularly great when the rapid method of treatment with these older substances is employed.

It has been shown that penicillin is apparently completely effective in early syphilis resistant to treatment by arsenic and bismuth; it appears to be of great value in the prevention of congenital syphilis in infants born of recently infected mothers. It produces dramatically favorable effects in early neurosyphilis, asymptomatic or meningeal, in both of which spinal fluid abnormalities improve with even greater rapidity than does the blood serological test and it is equally as useful in infantile congenital syphilis as in the acquired disease. Patients who have relapsed clinically or serologically because of insufficient penicillin or improper dosage schedule have been re-treated with larger doses. No example of penicillin resistance has been encountered, the relapsing lesion has responded as promptly as those originally encountered.

Late syphilis of various types presents a much more complex problem. The initial demonstration was that penicillin heals visible gummatous lesions of the skin and mucous membranes with even greater rapidity than does metal therapy. About 50 per cent of the patients with interstitial keratitis of congenital syphilis have shown improvement. Little can as yet be said as to the result in the treatment of neurosyphilis ranging from asymptomatic to general paresis. Some degree of improvement is immediately manifest but whether the benefits are as frequent or as complete as after fever therapy can not yet be stated. There is some indication that penicillin, like other drugs, is more effective when combined with fever therapy. Its greater effectiveness when combined with or following the malarial treatment is being evaluated.

Penicillin is, therefore, a new and powerful addition to syphilis therapy. A safe and rapid cure for early syphilis will soon be available. At present the method requires continued treatment at regular intervals given in a hospital. A method for use of penicillin in ambulatory patients must be found. Reactions are negligible and not of serious nature. How best to use the new drug, whether alone or in combination with other drugs or with fever therapy, is being determined under a government-sponsored nationwide study.

USE OF PENICILLIN IN SUBACUTE BACTERIAL ENDOCARDITIS

Many forms of therapy have been used in the past three decades against this hitherto nearly uniformly fatal illness. Within recent years a few definite cures have been established by the use of sulfonamide drugs, either alone or in combination with heparin or with induced fever therapy. The results were usually disappointing in the hands of physicians in general, and no one could duplicate the successes of the individuals who sponsored their particular type of procedure. When a method has real merit it promptly finds corroboration. When good results are obtained only by the originator of a particular mode of treatment, then questions arise as to its validity. Most investigators were pretty well discouraged by repeated failures to obtain any lasting degree of cure by the use of sulfa therapy and its various modifications.

Penicillin had to be tried early because of its effect upon streptococci in general. Its results were at first disappointing and when the production of the drug was still so limited it was not considered justifiable to apply it to this condition. When larger doses were employed the cures became more frequent. Some investigators used heparin either by the intravenous route or by intramuscular injection of a special preparation to keep the blood clotting time prolonged. This procedure was carried over from the pre-penicillin days when it was considered useful in preventing further deposition of blood clots upon the bacterial valvular vegetations. Penicillin was administered by the continuous intravenous route in some clinics and a method devised for discovering whether the causative organism was susceptible to the drug and also a procedure devised to titrate the blood-penicillin level. There were a much higher percentage of cures after properly conducted treatments than the highest claims by previous methods. The reports at once sounded reasonable, the good results were quickly duplicated and the method has become established as successful in the cure of a disease which until now was almost uniformly resistant to treatment.

Much larger doses of penicillin are employed than in the initial feeble attempts; millions of units are given until a clinical and bacterial cure is accomplished. Over 80 per cent of patients are cured. At times intramuscular injections alone suffice, thus simplifying the technique of treatment and eliminating the need for blood coagulation studies, without whose careful control the use of heparin presents a considerable hazard in itself. It has been a unique revelation to those doctors having previous experience with this disease actually to witness the conquering of this serious complication of cardiac valvular disease. Its very nature, its location upon the inaccessible heart valves, its resistance to massive doses of all of the sulfonamide drugs had not given much encouragement to hope for a method of cure.

PENICILLIN IN GONOCOCCUS INFECTIONS

Penicillin was found to posses an utmost efficacy in checking gonococcic infections. The developmental work was carried out largely on the initiation of the National Research Council. The early studies rapidly demonstrated the effectiveness of the product, and subsequent efforts were directed toward the finding of the optimal dose-time ratio. In one of the early studies a treatment period of 40 hours was employed. Hospitalization became necessary because of the frequency of the intramuscular injections. A more recent study utilized treatment periods of four and eight hours respectively, giving only two injections, each of 80,000 units of penicillin. The cure rates attainable with this routine were high, 92 per cent and 96 per cent.

This type of treatment employed in clinic or office practice would become most effective in the mass attack upon this disease. An average effective method of treatment includes a total of 120,000 units given by intramuscular injection of 20,000 units at three-hour intervals over a treatment period of 15 hours. No other therapy except penicillin seems to be necessary. The cure seems to be complete; no gonococci could be cultured beyond the eighth day after cessation of clinical symptoms. There seems to be no need for the fear that carrier states will be developed by drug resistant strains. The future may see the time when the world shall be relatively free of this disease.

PENICILLIN IN PNEUMONIA

The sulfonamides continue to be used but whenever for any reason response is unfavorable, the use of penicillin is begun. This applies to drug resistant fever, toxic drug manifestations, or non-pneumonococcus pneumonias. There has been little need for antipneumonococcus sera; penicillin usually proves effective, administration is safe and simple. Penicillin has proven of value in the cure of pneumococcus meningitis, and pneumococcus endocarditis conditions which have previously proven almost uniformly fatal and against which the sulfonamides or sera had little therapeutic effect.

Nothing is known of the biologic mechanisms, or the reasons therefor, which produced in one of many species of mold the capacity for the destruction of bacterial forms of life. The chemical nature of this substance is unknown. Its mode of action, like that of the sulfonamides, is ascribed to the power of blocking enzymatic action which is essential to the economy of the bacterial cell. In contradistinction to the sulfonamides is the fact that normal tissue cells are not involved in the action. Research of the future will be directed toward the discovery of other forms of life which possess the capacity to produce substances which may be utilized in the destruction of pathogenic organisms.

TYPHUS CONTROL EFFECTED BY NEW ARMY LOUSICIDE

The Army's virtual conquest of typhus through employment of dichlorodiphenyltrichloreothane, conveniently abbreviated to DDT, places that chemical with plasma and penicillin among the momentous medical discoveries of the war. The worth of DDT to preventive medicine, in the opinion of Lt. Col. A. L. Ahnfeldt, AUS, MC, Director of Sanitation and Hygiene for the Office of the Surgeon General, is comparable to the value of Lister's discovery of antiseptics to surgery. Many phases of DDT's effectiveness are shrouded by military secrecy, but when all of its potentialities have been exploited, insect-borne diseases may be eradicated.

Demonstrations of DDT's efficacy against epidemic louse-borne typhus in Naples was dramatic and complete. Typhus broke out in December 1943 when Italian troops were returning from the louse-infested Balkans after Italy's capitulation. Dusting stations were set up promptly all over Naples, and as many as 50,000 persons were deloused daily. By mid-March, 2,250,000 individuals had been treated with DDT, and the epidemic was halted. Since that time no case of typhus in an American soldier in Italy has been reported. The delousing schedule occasionally interrupted a wedding. Then the bride and her entourage, much to the merriment of all, would proceed from chapel to dusting station to be sprinkled with louse powder instead of the traditional rice.

Technique of mass delousing was perfected in North Africa where first field studies of DDT were carried out. Troops, refugees, prisoners, and the civilian population were treated simply by blowing or dusting DDT powder under the clothing by means of a nozzle-fitted spray gun or by compressed air power blowers. The dusting procedure became tremendously popular with the native Arabs who called DDT the "sleeping powder." The treatments relieved them of lice for the first time in years and enabled them to get a good night's rest. Examination of 252 men in one prison camp revealed 77 per cent infested with lice. The entire group was dusted, and, when re-examined after 16 days, not a louse was found.

Preventive possibilities against diseases transmitted to human beings by flies as well as lice are indicated by insecticidal tests. Diarrhea and dysentery, long plagues to fighting armies, may be ameliorated by employment of DDT, as may many cases of fly-borne typhoid. This potent insecticide was first synthesized in 1874 by a German student in Strasbourg, Othmar Zeidler, who was wholly unaware of its significance. The formula was noted in six lines in *Berichte Chemischen Gesellschaft* as a casual test tube evolution. Half a century later a Swiss scientist in Basel, Paul Muller, discovered that an incredibly small amount of DDT combined with a carrier was an unusually effective and durable insecticide poisonous to common insects by tasting or touch. In 1939 a Colorado potato beetle menace to the Swiss potato crop was controlled by DDT. Its use as an agricultural insecticide spread swiftly in Switzerland and DDT was tried out on an experimental scale in the United States.

As arsenates and natural products—pyrethrum, rotenone and nicotine—became war-scarce, scientists became more interested in the possibilities of DDT. Results of these investigations, particularly for the control of lice, attracted the attention of the United States Army in 1942. At that time the Army lousicide, MYL, contained the critical ingredient pyrethrum, needed even more in aerosol insecticides. Military scientists were impressed by the lasting residual potency of DDT. MYL was effective against lice for a week, but DDT powder retained its germicidal power for a month. Ordinary impregnations of garments would not withstand washing; clothing impregnated with DDT emulsion was effective against lice for two months with normal weekly launderings. Used in a 5 per cent kerosene solution as a spray, DDT was deadly to flies three months after application; a bed, properly sprayed, was protected against bed bugs for 300 days. The Army's interest mounted.

After many toxicological studies, the safety of DDT under conditions of Army use was established. On May 26, 1943, a mixture of 10 per cent of DDT in prophillite was adopted as the Army's standard lousicide. The chemical had never been made in the United States, but difficulties were quickly resolved. By early 1944 four firms were in mass production and by July the September 1943 output had been increased sixfold and expansion was continuing at an accelerated pace. Sufficient DDT had been turned out by early summer in 1944 to protect 50,000,000 troops a month. One two-ounce pepper-type can is now issued every month to each soldier in a typhus area. The powder is applied to the inner surface of the underwear, with particular attention to the seams.

Investigations continue to determine further uses, both military and civilian, and to discover ineptitudes of DDT. The present compositions are specific and are ineffective against certain insects. Research is also necessary to work out optimal dosages and rates and methods of application. The insecticide is being used in such huge quantities by the Army and the Navy that none is now available for civilian use. After the war, DDT will offer invaluable aid in the practice of preventive medicine generally. Widespread use on farms will add greatly to the world food output by saving crops from insects and may pave the way to a revolution in the economy of agriculture.

MIDGE-REPELLENTS PREVENT SANDFLY FEVER

Both dimethyl phthalate and a pyrethrum vanishing cream applied to the skin are reported to be effective repellents for the hairy two-winged midges that carry the virus causing sandfly fever, also known as phlebotomus fever and pappataci fever. Two army officers and a civilian physician, Major Albert B. Sabin, Lt. Col. Cornelius B. Philip, and Dr. John R. Paul, of New Haven, Conn., announce the means to combat outbreaks of the disease, which occur in many parts of the world where American troops are stationed. An outbreak of sandfly fever among soldiers in Sicily was mistaken for a time for dengue fever.

DEMEROL

The search for a drug with the potency of morphine for relief of pain, but which would not be habit-forming or possess the other undesirable effects of most opium derivatives, has resulted in the synthesis of demerol, the ethyl ester of l-methyl-r-phenyl-piperidine-4-carboxylic acid. In the form of the hydrochloride salt, this compound equals or surpasses morphine in some respects. Demerol is a safe drug, readily absorbed when administered orally, subcutaneously, or intramuscularly, which possesses satisfactory analgesic and sedative action, a weak atropine-like influence, and a moderately strong papaverine-like effect upon smooth muscle.

To determine whether the drug is preponderantly stimulating or sedative to the human bowel, patients with ileostomies, cecostomies, colostomies, or with the indwelling Miller-Abbott tube were given demerol. Stimulation was observed in only one instance out of 15 tests; in the other cases sedative action or no effect at all was noted. Apparently the intestinal stimulation uniformly produced in dogs does not occur in man.

On the basis of these results, the use of demerol in intestinal, biliary, or ureteral colic is logical. Even if muscular relaxation should not be uniformly induced, pain might be relieved by the analgesic effect of the drug. This circumstance might be advantageous in the case of postoperative ileus; although peristalsis might not be stimulated, pain could be abolished without danger of splinting the bowel.

When used for the relief of pain arising from lesions of joints, kidney, stomach and intestines, biliary tract, nervous system, bones, pleura or heart, demerol was completely successful in 64.2 per cent of cases, particularly effective in 23.6 per cent and failed in 12.2 per cent. Relief followed within five to 20 minutes when 100 mg. were given intramuscularly or within 20 to 30 minutes after oral administration of the same dose. The effect of such amount was greater than aspirin, but less than ¼ or 1.6 gr. doses of morphine. Hypnotic or sedative action was never profound. Unpleasant or toxic symptoms were noted by 27.4 per cent of the patients, but were severe enough in only 4.8 per cent to necessitate discontinuance of the drug. Withdrawal symptoms, and certain other circumstances, indicated that addiction may occur, but apparently not to the extent that would be expected from long-continued use of opium derivatives.

Morphine and its derivatives have been dependable drugs with centuries of background in the treatment of human suffering. Its dangers and disadvantages are well understood. The new synthetic has been widely tried among hospital cases; it is entirely too early to judge its ultimate usefulness. The final decision will come from the physicians who must use it among their private patients for the multiplicity of ailments causing severe pain and discomfort. Its effectiveness must be compared with the opiates during the course of the same illness, and its side effects or toxic manifestations observed. It is possible that an important new drug for the relief of suffering has been added to our armamentarium.

THIOURACIL IN THE TREATMENT OF THYROTOXICOSIS

The high basal metabolic rate attributable to thyrotoxicosis can be brought to normal by thiouracil and kept so while the drug is being administered. Symptoms of the disease disappear with reduction of the metabolic rate, and a return to normal of the protein-bound iodine of the plasma. These effects are due to the ability of thiouracil to inhibit the production of the thyroid hormone.

Over one-half of 72 ambulatory patients with thyrotoxicosis were given thiouracil for four months or longer; Robert H. Williams, M.D., and Howard M. Clute, M.D. of Harvard Medical School, Boston, recognized the value of thiouracil in these cases but observed certain undesirable effects. A schedule for administering thiouracil which is quite satisfactory includes: 0.2 Gm. three times daily for the first two weeks, followed by 0.2 Gm. twice daily until the basal rate has been maintained well within normal limits for several weeks. At that time the dosage can be reduced to 0.1 Gm. daily. Thiouracil is rapidly absorbed and excreted; therefore two or three divided doses of the drug are better than a single large amount.

The following untoward effects were seen with varying frequency: (1) With too large a dosage of thiouracil, the metabolic rate often became so low as to produce symptoms of hypothyroidism, a situation remediable by readjustment of the amount of the drug. (2) Leukopenia with agranulocytosis was produced in one patient, but with large doses of pentanucleotide and crude liver extract the cells became normal. Slight but transient depressions of the number of leukocytes were seen in some cases. (3) A morbilliform rash appeared on four patients and a moderately severe urticaria on three others. One patient with urticaria also had painful, swollen and stiff joints which disappeared when iodide therapy was substituted for thiouracil. (4) Six patients had edema of the legs, not associated with hypoproteinemia, cardiac failure or evidence of renal damage. In certain amounts, thiouracil may cause retention of sodium chloride and water. The carbon dioxide combining power of the blood decreased in a few of these patients. Such changes disappeared in spite of continued therapy. (5) Two patients experienced nausea and vomiting during the first week of treatment, and in another patient the submaxillary glands became swollen and tender.

All of these symptoms subsided without interruption of the medication. Thiouracil should be used in the smallest possible amount which will produce a remission of the thyrotoxicosis; this quantity varies with different patients. Those who have taken iodide within a period of four weeks tend to be resistant to thiouracil, and the basal metabolic rate may become elevated when the drug is first given and ultimate restoration of a normal rate may be delayed. The thyroid gland may increase in size and become more firm with the use of thiouracil, but will eventually recede. Thiouracil may cause an extremely large gland to enlarge further. A thyroid gland which does not become smaller may shrink with the addition of desiccated thyroid substance in daily dosage of 0.5 to 105 gr.

Thyroid substance may be necessary also for patients in whom exophthalmos increases during the first few weeks of treatment. For cosmetic reasons, because of large size or because treatment could not be adequately carried out, thyroidectomy was done for 22 thyrotoxic patients and three patients with colloid goiters, following a period of thiouracil administration. The removal of the gland was technically no more difficult after thiouracil administration than after iodide therapy, although the tissues were slightly more vascular and friable.

This drug has great value, particularly in patients with thyrotoxicosis where cure by surgery is not desired. The patient, because of age or other disability may be a poor surgical risk or the illness may be of low intensity and it is wished to try nonsurgical measures first. It is useful in controlling the toxicity of a postoperative persistent or recurrent hyperthyroid state. Some patients refuse surgery; in them its use is indicated. Because of its toxic effect upon the white blood cells and the blood platelets, these blood elements must be constantly followed during administration of this drug. A number of deaths from agranulocytosis has been reported. It is a drug with dangerous potentialities, and its use can not be indiscriminate. Its use is still restricted to investigators. Aside from thyrotoxicosis, it is being tried in other diseases where depression of the metabolic rate is of advantage.

PRODUCTS OF HUMAN PLASMA FRACTIONATION

Extensive investigations have been carried out with the protein products of human plasma fractionation developed from blood collected by the American Red Cross by the Department of Physical Chemistry, Harvard Medical School, under a contract, recommended by the Committee on Medical Research, between the Office of Scientific Research and Development and Harvard University.

These studies, carried out in collaboration with workers at a large number of medical centers, have yielded the following practical results: (1) a concentrated human serum albumin package for the Army and Navy, as a compact stable, quickly available blood substitute; (2) fibrinogen—upon which the normal physical properties of the blood clot largely depend—made into tubes and plastics, and used for the formation of clots in certain surgical conditions, skin grafting and coagulum pyelolithotomy; (3) fibrin films for membrane covering of burns, and as a dural substitute in neurosurgery; (4) fibrin foams for hemostatic agents in neurosurgery; (5) purified concentrated isohemagglutinins for blood typing; (6) concentrated human serum gamma globulin for the prevention and modification of measles.

Plasma is of unquestioned value in the treatment of shock, burns, and diseases in which one or another of the components of plasma have been depleted. The several constituents of plasma are not equally effective in the treatment of diverse conditions; therefore, the fractionated parts of pooled plasma, collected by the Red Cross, were studied to determine the best use for the treatment of clinical conditions.

The antibodies are only a small fraction of the plasma proteins, and the rest of the plasma has little value in the prevention or modification of contagious diseases. Conversely, in shock, injection of the human antibodies, in spite of some effect on colloid osmotic pressure, would be less effective and economical than the use of an equal amount of albumin.

The constituents of plasma, which have been concentrated during large-scale fractionation of plasma, include: antibodies against infectious diseases, two of the components of complement, the anti-A and anti-B isohemagglutinins and Rh antibodies, hypertensinogen, thyrotropin, fibrinogen, thrombin, alpha, beta and gamma globulins and albumins.

THE GLOBULIN FRACTIONS

The separation of the albumin fraction from human blood plasma has made available, as by-products, the serum globulins. These are found in three fractions: Fraction I, which contains chiefly fibrinogen; Fraction II + III, containing beta and gamma globulins; and Fraction IV, containing alpha and beta globulins. Subfractionation of Fraction II + III yields three fractions: II, containing a high concentration of gamma-globulin and the major part of the antibodies; III — 1, containing the isohemagglutinins and some antibodies; and III — 2, containing prothrombin, from which thrombin is derived.

Immune serum antibodies are associated with or actually consist of globulins. A concentration of about 15 to 30 times normal of plasma antibodies has been obtained by the separation and purification of the gamma globulins. Immunologic assay of antibodies from plasma collected from various sections of the United States reveals a uniformity of potency; however, an increase in influenza A antibodies has followed a recent epidemic of the disease.

The normal human gamma globulins contain antibodies reacting with diphtheria toxin, streptococcal erythrogenic toxin, influenza A virus, mumps virus, and the H antigen of E. Typhosa.

The serum gamma globulin prepared by chemical fractionation reveals a striking capacity to protect against and attenuate measles, and for size of dosage and ease of injection surpasses other types of human immune serum. When injected within a suitable period in susceptible individuals, a dose of 2.5 cc. prevented measles in approximately 66 to 80 per cent. In those not completely immunized, the severity of the measles was considerably modified. The immunity study involved 819 exposed, susceptible individuals.

In the treatment of measles with serum gamma, globulin doses from 5 to 35 cc. were given. In approximately one-third of the individuals injected after the rash started the disease was modified. In over two-thirds of the individuals with Koplik spots but no rash who were injected, the disease was mild, and in two cases no rash developed.

A second group of controlled family cases was significantly protected. From this study an intramuscular dose of 0.1 cc. per pound of body weight, given within the first five days after exposure, appeared to be adequate for complete protection in a large majority of cases. For attenuation, approximately one-quarter of this dose sufficed when given within the first five days. No reactions were observed.

SURGERY

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GENERAL

Developments in Surgery in 1944 can be attributed mainly to three groups: physicians who are still in active practice, in teaching or research posts and thus have an opportunity to continue to make worthwhile contributions; selected members of civilian groups in teaching institutions who are carrying out studies on vital military surgical and related fundamental problems under contracts between the Office of Scientific Research and Development and the teaching institution, and in cooperation with Armed Forces staffs; and physicians and others qualified in the armed forces who are making important observations on the various battle casualties and their sequelae. The bulk of the reports in the literature is by the two latter groups. The advances in Surgery have been primarily in the pre- and post-operative care of the surgical patient, whereas revisions of standard surgical technics have been minimal.

SULFONAMIDES

The availability of the sulfonamides, and now of penicillin and some newer antibiotic agents, necessitates full consideration of the types of bacteria which may contaminate wounds. While it is difficult to obtain gross evidence of the efficacy of these drugs, careful observers insist on two things: (1.) the gross infections which ravaged base hospitals during the First World War occur with considerably less frequency in this war, but the collection, disposal, earlier treatment and evacuation of casualties must be given proper credit; (2.) regardless of what claims are made for chemotherapy, surgical technic must not be changed; pus must be drained, necrotic tissue must be removed, and blood supply to damaged tissue must be maintained. The help of a chemotherapeutic agent will never absolve the surgeon from the primary and all-important necessity of good surgery. By and large, the reports indicate that if the surgical care has been good, end results usually are good. If the surgical treatment has been bad, neither the sulfa drugs nor penicillin are able to atone for the error. There is more and more suggestion that sulfonamide therapy is more effective systemically than locally. Aside from being inactivated by the inhibitors in necrotic tissue and in pus, the local use of certain sulfonamides may irritate, produce exudate, delay healing, and encourage the formation of adhesions. It is now accepted that sulfonamide drugs do not prevent infection in wounds produced by trauma, though their use immediately after infliction of the wound may minimize spread of the infection from the wound and sepsis.

As regards local antisepsis of wounds, a drug closely allied to the sulfonamides and known variously as Marfanil, Mesudin, and Homosulfanilamide deserves mention. This drug, 4-amino-methylbenzene sulfonamide, differs from the common sulfonamides in that the amino group is separated from the benzene group by a methyl group. While it has little antistreptococcal activity when administered systemically, it has been discovered that this drug, in contrast to the sulfonamides, is effective in the presence of pus, under anaerobic conditions, and apparently is not neutralized by para-aminobenzoic acid. Marfanil is soluble up to 4 per cent concentration in water, and therefore should be useful in irrigations. While streptococci and staphylococci are suppressed by Marfanil, the former being more sensitive than the latter, Marfanil has the additional advantage of being effective against many strains of B. proteus and B. pyocyaneus. It is possible that, with the increasing availability of penicillin, Marfanil will find its greatest use in the topical treatment of the gram negative bacillary wound infections. There is no evidence available at present to suggest that penicillin and Marfanil can not be used simultaneously.

SULFAMERAZINE

This new member of the sulfa-drug family has definite advantages over sulfadiazine, which is generally recognized to have equal or superior antibacterial value and lower toxicity than other sulfonamide compounds in common use. Trial of several sulfonamide compounds in experimental infections in animals has demonstrated that both sulfamerazine and sulfadiazine are more active against streptococci, pneumococci, and staphylococci than are sulfanilamide, sulfapyridine, and sulfathiazole. Sulfamerazine is more soluble than sulfadiazine, is more rapidly and completely absorbed from the gastrointestinal tract, yet is excreted more slowly by the kidneys. Consequently, sulfamerazine becomes more highly concentrated than equal amounts of other sulfonamides, and its effective dosage is one-half to one-third that of sulfadiazine. The frequency of toxic reactions is about the same for these two drugs. The most obvious advantage of sulfamerazine is that doses given at eight-hour intervals give as effective blood levels as similar doses of other sulfonamides given every four hours.

PENICILLIN

It has been stressed recently that the appraisal of drugs in surgical infections is more difficult than in medical infections because surgical infections are characterized by a local breakdown of tissue or a confined localized exudate which must be evacuated either spontaneously or by a surgical procedure, or must be absorbed by the body. These necrotic exudative foci may prevent the entrance of the therapeutic agent or nullify its action when it gets to the focus. Thus surgical infections permit or require the local as well as the general administration of drugs, so that in appraising the value of a drug, local, general and combined methods of administration as well as local and systemic toxic effects must be considered.

As with the sulfonamides, it is necessary with penicillin therapy that the bacterial etiology of the infection under consideration be known. The great progress made by the combined enterprise and ingenuity of American and British industry has resulted in the production of sufficient penicillin to permit the release of increasing amounts of the drug for civilian use.

Penicillin is being employed *systemically,* principally against staphylococcus aureus, the hemolytic and the green streptococcus and the pneumococcus, in generalized infections, accompanied by local lesions in bones, lungs, and heart valves, in empyema, and in synovitis. In disseminated sepsis the results frequently are dramatic (that is, when the organisms were penicillin sensitive). In cases where failures occur, they have been noted as owing to: (1) penicillin insensitive organisms or the concomitant presence of bacteria that actually destroy penicillin; (2) morbid anatomic conditions which prevent the solution from reaching all parts of the infected areas; and (3) antecedent fibrosis or other pathology which prevents wound closure and healing.

Penicillin is used *locally* for one of the following reasons: (1) to introduce the drug into closed cavities and spaces in the body into which it is not efficiently transported by systemic routes; (2) to obtain higher concentrations in wound fluids than can be obtained by systemic administration; and (3) to economize on penicillin in treating localized infections. When penicillin is administered systemically, it is not efficiently transported through membranous barriers; it appears only in limited concentrations in spinal, pleural, and peritoneal fluids, and in pus. Thus topical therapy is indicated in meningitis, pleural cavity and joint infections, and soft part infections. In all these conditions concurrent systemic administration of penicillin is desirable if, and so long as, there is any continuing evidence of a systemic reaction to the infection. In some instances, penicillin therapy has postponed surgery, or has permitted a more limited type of surgery than would otherwise be necessary, for example, in suppurative mastoid infection, in suppurative arthritis, and in empyema.

At this writing, the value of penicillin in prevention of infection in accidental wounds both civilian and military is questionable. This parallels the experience with the sulfonamides as prophylactic agents. However, if infection does develop in these wounds, systemic penicillin is of value if the causal organisms are penicillin sensitive (local application must not be wholly relied on as the drug may not come in contact with deeply placed organisms). On the other hand, in well localized and accessible abscesses of soft tissues, brain, or bone, it is often possible to empty the cavity by aspiration and to reinject penicillin. Localized furuncles, brain abscesses, and subperiosteal abscesses have been treated successfully in this way, and the need for later surgery has been obviated. Local penicillin has been valuable, too, after drainage and debridement of abscesses of bone, mastoids, fingers, tendon sheaths, and other soft parts, as an aid in the removal of bacteria which remain on the wound after removal of infected fibrin and slough. Such wounds may be subjected to early secondary closure or skin grafting once it is apparent that tissue invasion has ceased and all of the slough has extruded.

Staphylococci and streptococci can be caused to disappear from granulating wound surfaces in preparation for skin grafting by applying penicillin in a suitable vehicle at frequent intervals. If there is an associated cellulitis, systemic penicillin is administered as well.

The results to date suggest that penicillin has not satisfactorily met the problems of gas gangrene, and this may be owing not only to the failure of the blood supply to the part to deliver adequate amounts of the drug, but also because this dread complication of battle wounds is manifested by great systemic toxin activity from the bacterial action on the tissues. The toxic action can be neutralized only by the administration of large amounts of antitoxin.

Penicillin has great advantage over the sulfonamides in that (1) its toxic limit is many times over the therapeutic level; (2) it is not inhibited by blood or pus or necrotic tissue; and (3) when it is used locally it minimizes and does not increase exudate. Its disadvantages include inactivation or inhibition by the Gram-negative bacilli and of reduced efficiency in the presence of these organisms, its instability, and its rapid absorption from the area of application and rapid excretion, necessitating frequent injections.

Regarding slowing the absorption of penicillin locally applied in wounds, the admixture of penicillin and dry plasma and plasma fractions shows promise as a practical method, since it involves no introduction of a foreign body into the wound.

PROTEIN DEFICIENCY, CHRONIC WOUND SEPSIS, AND DEEP THERMAL BURNS

It has been observed in battle casualties suffering from prolonged infections and slow healing wounds, and in patients with deep thermal burns, that there is a steady loss of protein through exudation, and a steady depletion of tissue-protein reserves. This loss of tissue proteins may become so severe that, it was noted in the penicillin treatment of battle wounded, therapeutic responses in protein deficient patients were sometimes disappointing even though the causal organisms were penicillin sensitive. Likewise the slow healing of third degree burns is explained in many instances on the basis of negative nitrogen and plasma protein level balances. The usual experience has been that in these conditions high protein diets alone frequently will not meet the body demand for protein. Thus in long standing infectious illnesses, in severe burns and the like, it has been necessary to fortify the diet, by supplemental feedings of amino acids or by the intravenous administration of amino acid preparations and plasma and whole blood transfusions to restore a positive nitrogen balance and normal plasma protein level. Once nitrogen balance is restored the patients gain weight and the tissues respond more vigorously against infection. The availability at present of amino acid preparations for both oral and intravenous use fills an important need in our therapeutic armamentarium.

As regards burns and wounds there is increasing awareness of the need for an agent which will accelerate the separation of sloughing dead tissue from living tissues so that earlier skin grafting can be realized. Certain organic acids and tissue enzymes are showing promise in this field.

THIOURACIL AND THYROTOXICOSIS

In 1943, it was reported in the literature that thiouracil could be employed safely and beneficially in the treatment of thyrotoxicosis. Other workers have confirmed and extended this observation. In thyrotoxic patients thiouracil has been found to cause a lowering of the basal metabolic rate to normal levels, a return to normal of the protein bound iodine of the plasma, and concurrently a remission of the disease. The drug seems to act on the thyroid gland, decreasing in some manner the formation of its hormone, and clinically, patients with hyperthyroidism show significant improvement in thyrocardiac symptoms and a fall in the basal metabolic rate. If the drug is discontinued for a period of weeks, some relapses may occur, but while under treatment, all patients with thyrotoxicosis regardless of whether or not they had been given iodine previously (iodine slows the thiouracil response) eventually attain a normal metabolic rate and a remission of the disorder. Thus far, in preoperative preparation of the hyperthyroid patient, thiouracil is proving to be superior to iodine.

Thiouracil produces a hyperplastic but non-functioning goitre. An occasional disadvantage of its use in preparing patients for surgery lies in the fact that this hyperplasia is accompanied by increased vascularity and friability which makes the gland more difficult to handle and renders hemostasis arduous. Another disadvantage of the drug is that patients under treatment may develop toxic manifestations not unlike those of the sulfonamides.

HIGH ALTITUDE FROSTBITE

This new clinical entity is caused by brief exposure, sometimes only a minute or two, to the extreme cold of high altitudes (—40 to —52° C.) augmented by anoxemia and ischemia. High altitude frostbite affects only the extremities. The mild form is manifest as painfully cold, numb, stiff, waxy white fingers which are often hard or even brittle. The affected extremity is not permanently damaged if normal temperature is restored within a short time. The fingers ache and throb and appear white for several hours, and paresthesia may persist for days or weeks. On the other hand, prolonged exposure may cause severe permanent damage initiated by the simultaneous appearance of small cutaneous blisters that grow rapidly and coalesce to form large bullae. The simple vesicles contain free fluid, like second degree burns, but more frequently the fluid remains in the tissues and can not be drained by aspiration of the blister but rather dissects the skin from the deeper layers. In two or three days, the skin loosens, wrinkles, and dries, and may slough off later in the form of a dry cast of the affected part. Regeneration is possible only from the basal epithelium which remains in the sweat glands. The part may appear gangrenous because of hemorrhage into the extravasated fluid. Hemorrhage under the nail is common, and causes loss of the nail.

The regenerated skin is thin, tight, smooth, and shiny. Tolerance to cold is diminished. After several months the skin becomes normal in appearance and in motility, reaction, and sensation to cold. Sensory impairment and loss of sweating may extend well beyond the area of apparent tissue damage. The lowest temperatures may cause the dry type of gangrene, and spontaneous amputation of the part will occur in time.

The condition of high altitude frostbite is probably owing to an intense spasm of the arteriolar blood vessels, with resulting ischemia and anoxia. Damage to the capillary endothelium results in increased permeability and in thromboses. If the spasm is released before the thrombus forms, the hyperpermeable capillary bed is flooded and blisters appear; if the thrombus is already formed extravasations do not occur. Pain results from pressure caused by the hemorrhage and extravasation into the deeper tissues while gangrene ensues if the deep arterioles are thrombosed.

The object of therapy in frostbite is release of the vasospasm before thrombosis takes place. Gradual warming to room temperature is advocated. Other treatment depends on the presenting situation. The condition is prevented by wearing properly protecting mittens and footwear.

BLOOD AND BLOOD PRODUCTS

Extensive investigations have been carried out with the protein products of human plasma fractionation developed from blood donated to the American Red Cross by the Harvard University group under contract with the Office of Scientific Research and Development of the Medical Research Council, and in collaboration with workers at a large number of Army and civilian medical centers.

Blood plasma has proven to be of unquestioned value in the treatment of shock resulting from battle casualties and other diseases, and as replacement therapy in burns in which one or the other components of plasma has been depleted. Now not all of the constituents of plasma are equally effective in the treatment of shock and burns. Therefore, the fractionated parts of pooled plasma, collected by the Red Cross, were studied to determine the best use for the treatment of clinical conditions. The constituents of plasma so far concentrated during large scale fractionation include antibodies against diseases, two of the components of complement, various agglutinins, hypertensinogen, thyrotropin, fibrinogen, thrombin, the globulins, and the albumins.

ALBUMIN

Concentrated human albumin is now packaged for the Army and Navy, as a compact, stable, quickly available blood substitute. Each unit contains 25 grams of normal serum albumin in 100 cc. of diluent, and is equivalent in its osmotic effect to 500 cc. of citrated plasma. Intravenous injection of concentrated human serum albumin rapidly increases blood volume by drawing extravascular fluid into circulation. While it comprises only 60 per cent of the plasma proteins, albumin accounts for 80 per cent of the colloid osmotic pressure of the blood. The immediate response of the patient receiving concentrated albumin is usually a rapid fall in hemoglobin concentration and hematocrit reading, which indicates the transfer of extravascular fluid into the circulation. During the few hours following the injection of albumin, hemoglobin and hematocrit values return to normal, provided hemorrhage has not been associated. Thus concentrated human serum albumin promptly combats the shock and associated circulatory failure owing to hemorrhage, trauma, and extensive burns. Undesirable reactions are few. When patients are not actively bleeding or losing plasma into burned or injured tissues or into the peritoneum, the albumin is retained in the circulation for at least six hours. If anemia persists it is an indication for concomitant blood transfusions.

Clinical and experimental data indicate that concentrated human albumin is effective in cases of shock with severe dehydration, but salt solution also must be administered in such cases. The following recommendation is stamped on each bottle, "Precaution: In the presence of dehydration, albumin must be given with or followed by additional fluids." In cases of shock in which bleeding has not been controlled before treatment, the patient may lose more blood when the pressure rises rapidly after injection, just as with blood or plasma transfusion, and all bleeding areas must be controlled to prevent further shocking.

The advantages of serum albumin are its specificity in the treatment of shock and hypoproteinemia, the fact that it is a compact, stable, quickly available substitute—it takes up much less space than a comparable amount of dried plasma—and is ready for instant injection without reconstitution or cross matching. Less than ten minutes is required for the gravity infusion of the standard albumin solution unit.

FIBRIN

Fibrin films, clots, and even plastics are structural materials derived from the proteins of human plasma involved in the coagulation process. Fibrin clots are ordinarily prepared in *situ* by mixing solutions of fibrinogen and thrombin; these clots are less stable than the films or plastics, and their uses are yet to be fully exploited. A preformed fibrin film may be either a single lamina of plasticized fibrin or used as sheets or bandages. The untreated fibrin films may persist for only five days in the body, while specially treated films may remain for more than 80 days. Encapsulation occurs between 10 and 30 days after implantation. Thus the choice of material for surgical use must be guided by the persistence time desired.

Fibrin films may be used on burned and denuded areas, and are recommended, in the form of roll bandages, as burn dressings in combat areas. In neurosurgery, fibrin films have been used for the repair of dural defects and to prevent adhesions between damaged nervous tissue and adjacent structures. The fibrin film is transparent, flexible, tough, rubbery, and plastic.

Fibrin foam has been developed as a hemostatic agent. The dry foam is a dull, rough, slightly brittle porous mass, which is soaked in a saline solution of thrombin before use. This type of matrix has been used most frequently in neurosurgery to control oozing from the dura. The material is left in place, and it causes less tissue reaction than does muscle.

RED CELL TRANSFUSIONS

In withdrawing the supernatant plasma from blood which has been allowed to settle, the citrated red blood cells remain. The current large scale preparation of plasma has made available large quantities of red cells. The English, as well as we, have recognized the beneficial effect of transfusions of concentrated red cells suspended in saline, so that in their use not only is an economy effected in the preparation of plasma, but also, the use of these suspensions permits giving large quantities of cells in a short period of time, and in smaller volume. Also suspensions are less expensive than whole blood obtained from a professional donor. There is little doubt from the evidence accumulated that red cell transfusions are a satisfactory substitute for whole blood in the treatment of the anemia of hemorrhage, chronic sepsis, and the like. The present sources of supply are centers where plasma is prepared. Since hemolysis occurs on storage, red cells must be used within one week of the time the whole blood was drawn from the donor.

GLOBIN

This is the latest and one of the most promising blood derivatives. It is being tried clinically and is proving an effective blood substitute to restore lost blood volume. Modified globin is economically prepared from red cells discarded from citrated blood which has reached the limit of preservation or from red cells which are left over from the preparation of plasma. Like plasma it can be dried from the frozen state and readily reconstituted with saline solution.

PUBLIC HEALTH

By W. W. Peter*
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GENERAL

Public health in the United States did not deteriorate in the war years 1943-44. This fact is all the more remarkable because nearly half of the physicians and nurses of the country are in war service. Another contributory fact is the absence of killing epidemics on a nationwide scale such as occurred in the influenza epidemic in 1918. Ours was the only belligerent nation without mass migrations of the population necessitated by enemy invasion or the fear of invasion. There were no bombings or burning of cities with their consequent disruption of food, water, or milk supplies, or breakdown of sewage disposal facilities. Housing, hospitals, and transportation systems remained intact. All of these were important factors in the maintenance of the public health.

During these two years there were large shifts in population from farm to industrial centers, from one region to another, and from one form of livelihood to another. Rationing of food supplies and transportation, cutting down of many civilian commodities, all necessitated readjustment but did not reflect themselves on a large

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scale shift in the mortality and morbidity rates of the country. Altogether the United States has suffered less than any other actively warring nation. Just how much is not known now. In countries which have thus far suffered more, reliable vital statistics are either non-existent (China) or not available (Russia).

Public health has made advances which in part may be attributed to our involvement in another world war. To increase our total war effectiveness research was stimulated. Discoveries were made earlier under the compulsions of war. The usual lag in time between discoveries and their confirmation and widespread application has been shortened (penicillin, sulfa drugs, DDT, various vaccines). Advances have been made in distributing the economic load of sickness and incapacitation, and through redistribution of physicians and special organizations in providing more and better medical care and hospitalization. The use of well-established procedures has been increased (pre-employment and preplacement physical and mental examinations, mass X-rays of the chest).

On the other hand, advances have been made in destroying life. Many of these same sciences and technologies are being employed as ingeniously to find new ways to kill on or under the sea, on land, and in the air, as are used to prolong life. Some may feel that such evidences of progress in methods of annihilation indicate a wholesale squandering of our intellectual policy because of the declining genius of the spirit which knows not what to do with such explosive power as is being progressively unleashed. "Modern war and modern civilization," said Raymond B. Fosdick at the 1943 meeting of the American Public Health Association, "cannot survive on the same planet. One or the other has to go. We cannot have robot buzz-bombs and public health in the same world. We cannot develop the destructive powers of physics and chemistry as they are being developed now, and at the same time keep our schools and hospitals and cultural institutions intact."

HEALTH INDICES

The war years 1943-44 brought about no striking changes in the health status of the nation. The trend continues toward an aging population. After age 65 the life expectancy of white women has increased to 78.2 years; white males to 76.9 years. Today 9,019,314 U. S. citizens have lived to the age of 65, or 5,938,816 more than in 1900.

The birth rate of 1943 (22 per 1000 population) was the highest in about 20 years. However, after the first quarter of 1943 the trend was generally downward, as the peak of the wartime spurt in the birth rate appears to have come in the winter of 1942-43. A continuous decline of the birth rate is expected for the duration of the war.

The infant and maternal mortality rates continued downward. In 1943 the infant mortality rate was 40 per 1,000 live births, about the same rate as in 1942. It was 47 in 1940. The maternal mortality rate of 25.9 per 10,000 live births in 1942 was about the same in 1943. The rate was 62.3 in 1930. The death rate of 10.9 per 1,000 population in 1943 showed a slight increase over the rates since 1940. This may be attributed largely to changes in the age distribution of the population accelerated by the transfer overseas of many young men.

The so-called metabolic and degenerative diseases constituted the principal causes of death with higher mortality rates in 1943 and 1944 than in 1942. This was to be expected. People live longer. Surviving the causes of death of earlier years, they are subject to the diseases of the older age groups. Diabetes, for example, which ranked sixteenth as a cause of death in 1909, now occupies the ninth position. The same age factor operated with respect to cardiovascular and renal diseases.

INFLUENZA EPIDEMICS

There were nationwide epidemics of influenza, meningococcus meningitis and poliomyelitis in 1943-44. The influenza epidemic started in the Great Lakes region in mid-November, 1943, and spread rapidly to other parts of the country. The reported incidence was higher than any year since 1918 in spite of there having been 18 epidemics in this 26-year period. In this 1943-44 epidemic the incidence among children under 10 years of age approximated that in 1918-19, but the incidence above 40 years was greater than in 1918-19. Attending pneumonia in the current epidemic was far below that of 1918-19, nor was there a repetition of any young adult peak which was so striking in the great pandemic of 1918-19. Also, among persons under 25 years of age the pneumonia rate was less in the 1943-44 epidemic than in any of the other intervening epidemics. The percentage of the total number of influenza cases complicated by pneumonia in the 1943-44 epidemic was far below the figure for any other epidemic for which data are available. The 1918-19 pandemic did not show consistent differences in the attack rates according to sex, but in the ensuing epidemics, including 1943-44, the influenza rates were consistently higher for females, particularly adult females, than for males. Although the total number of influenza cases was unusually high, the specific death rates were low compared with 1918-19 epidemic. The epidemic of 1943-44 caused only 8 per cent as many excess deaths as did the 1918-19 pandemic.

MENINGITIS

Meningococcus meningitis cases reported began to increase early in 1941. There were 17,992 cases reported in 1943 and the 1943-44 epidemic was severe in all sections of the country. The total number of cases reported far exceeded those of the previous nationwide epidemics of 1917-18, 1929-30, and 1935-37. Again for this recent epidemic the specific death rates were low compared with previous epidemics. This low case fatality for meningococcus meningitis may be attributed in large part to the prompt and successful use of the sulfa drugs in treatment.

POLIOMYELITIS

There is no completely satisfactory term for the condition variously known as infantile paralysis (a name which is misleading because the virus attacks adults, chiefly young children, and less frequently small infants), or poliomyelitis, "polio" for short (indicating an inflammation of the gray matter of the spinal cord). A nationwide increase in the incidence of this disease began early in 1943, mounting to over 12,000 cases after a year of comparative quiescence. From Jan. 1 to Nov. 18, 1944 (46 weeks) there were 18,490 cases reported, thus making 1944 the second worst year of this disease since 1916 (27,621 cases). This recent outbreak was accompanied by the highest specific death rates since 1937. While knowledge about the virus and its seasonal activity is increasing, little is known about how it actually spreads in nature from sick to susceptible well persons. Cases appear in unexpected places unrelated to each other. As yet it does not seem to follow the well established channels of spread applicable to other communicable diseases. To scientists it is still a V-2 bomb disease about which much more needs yet to be discovered.

TUBERCULOSIS

In spite of wartime dislocations of many kinds, the tuberculosis death rate continued to decline. It ranked first in 1909 as a cause of death and is now seventh. It dropped 32 per cent since 1932. If this rate of decrease should continue it would be 32 per 100,000 in 1950. The rate was 44.5 in 1941 and 43.1 per 100,000 population in 1942. For years this falling death rate continued persistently through periods of boom and depression and even in war. It is not owing to the discovery of a miracle cure as in gonorrhea and syphilis. The sulfa drugs and penicillin are of no use. No preventative has been found for immunization against tuberculosis. Instead, the steady decline in tuberculosis is the result of many factors each one of which plays an important role.

Some of these factors have been in operation for a long time. Others have been known for a long time as certainly effective but have never been applied to sufficiently large numbers of the population to exert a marked influence on the death rate. It would be difficult to single out any of these factors for specific and accurate evaluation in comparison with the others but the total list includes earlier and better diagnosis. Auscultation and percussion may detect advanced tuberculosis but only the X-ray of the chest is diagnostic in early cases. With the introduction of the small size film, trucks complete with X-ray machines, developing tanks, viewboxes, and dressing rooms it is now possible to examine large numbers of children and adults rapidly, accurately, and economically. One reason why the Army admission rate for tuberculosis in this war is only 1.2 per 1,000 per annum as against 9.4 in the last war is that every man and woman had an X-ray of the chest before admission to military service. To an extent never previously experienced there has been pre-employment X-ray examination in civilian establishments. Before some 100,000 laborers from Mexico were allowed to fill farm labor shortages in the southwest, the U. S. Public Health Service screened out the tuberculous by this rapid and reliable method. Methods of treatment for tuberculosis have improved. More attention is now devoted to follow up of discharged cases and to contacts. Another factor of importance is the year by year pressure exerted upon the public through health education by official and voluntary health agencies at national, state, and local levels.

The United States has been exceptionally fortunate among belligerent nations in maintaining the tuberculosis death rate at a low level. Preliminary figures for 1944, however, suggest the beginning of an upward trend which is rather widespread. This is a matter of some concern.

INDUSTRIAL HEALTH

Industrial health practices in 1944 reflected the whole range of wartime activities. To sustain and quicken production, to help veterans re-establish themselves, required strict control of job hazards and building up of human resources.

The preplacement health examination came to the fore, along with job analysis, in matching workers and jobs. Experience gained in the earlier years of the war, when handicapped persons were drawn into industry, was invaluable in guiding disabled veterans. Medical examinations proved their worth not only in helping the worker to find a suitable job and to improve his health and morale, but also in safeguarding the health and safety of others. Follow-up examinations made for the worker's continued well-being also served as a check on unhealthful exposures. An important report on health examinations in industry was made by the A.M.A. Council on Industrial Health after consultation with representatives from the American Federation of Labor, the Congress of Industrial Organizations, the National Association of Manufacturers, the United States Chamber of Commerce, and the Joint Claims Committee of the Stock and Mutual Casualty Insurance Companies.

Labor's growing interest in industrial hygiene was shown by inclusion of health clauses in labor agreements. Labor-Management Committees promoted good health and good working conditions. A successful demonstration program on health education for industrial workers in the Fort Greene District of Brooklyn was the cooperative enterprise of management, employee groups, City Health Department, the medical profession, nursing groups, and others.

TNT AND OTHER POISON SAFEGUARDS

Casualties among TNT workers were strikingly lower than the First World War figures. In a speech before a Senate subcommittee in July, 1944, Paul V. McNutt mentioned that, during the last war, in a single shell-loading plant operating for about 20 months, there were 7,000 cases of systemic poisoning from TNT and 105 deaths. Reports on 20 shell-loading plants in this war, covering 18 months, showed 284 cases of systemic poisoning and 14 deaths.

Increased knowledge of radioactive compounds made it possible to safeguard workers very effectively, especially luminous dial painters. Emphasis was placed on ventilation, housekeeping, and personal hygiene in controlling radium poisoning hazards.

STUDIES AND EXPERIMENTS

Considerable progress was made in aluminum therapy, in the prevention and treatment of silicosis. Parallel experiments were carried on with metallic aluminum powder and with aluminum hydroxide. Further studies of welding fume hazards led to better ventilation in confined spaces, and to improved sampling devices. A silica dust hazard discovered in quartz crystal cutting and sawing for use in radio transmission was controlled by frequent changing of the recirculated coolant liquid.

Eye hygiene surveys in industry were helpful in developing methods of appraisal and pointing the way to more adequate medical and nursing services. The reduction of noise, too, came in for serious consideration.

HYGIENE SERVICES IN WARTIME INDUSTRY

Industrial hygiene activities on Federal, state, and local levels were accelerated in scope and coverage to keep pace with wartime production. For the fiscal year 1943-1944, state and local industrial hygiene services in 38 states had a total budget of $1,225,000 of which 49.8 per cent was in Federal funds. An additional $209,000 represented salaries of personnel loaned by the Public Health Service under the Emergency Health and Sanitation Appropriation. It is expected that many persons trained under this Federal emergency legislation will be taken over by state and local agencies after the war. Interesting developments continued at the Army Industrial Hygiene Laboratory at Johns Hopkins University and at the Medical Research Laboratory at Fort Knox. Much of the increased activity by state and local units and the armed services was promoted and coordinated by the Industrial Hygiene Division of the United States Public Health Service in Bethesda, Md.

An impressive array of official and unofficial agencies contributed to industrial hygiene knowledge in 1944. The American Standards Association issued the following war standards for allowable concentration of toxic materials: Z37.13, oxides of nitrogen; Z37.-14, methanol; Z37.15, styrene monomer; and Z37.16, formaldehyde.

Two important reports on lead were published by the Committee on Lead Poisoning of the American Public Health Association, "Occupational Lead Exposure and Lead Poisoning," and "Methods for Determining Lead in Air and in Biological Materials."

The International Labour Office issued a special supplement to *Occupation and Health*, "Industrial Health in Wartime"; and a monograph, "The Safe Installation and Use of Abrasive Wheels." It also resumed publication of the *Bibliography of Industrial Hygiene.*

The Safety and Security Division of the Ordnance Department issued an *Industrial Safety and Hygiene Manual* for ordnance establishments. From the Eighth Service Command, United States Army, came *The Toxicology and Prevention of Industrial Disease*, illustrated, and already in its 3rd edition. War Department pamphlet No. 8-8 outlined protective measures in the handling of radium compounds.

The United States Public Health Service made an effort to coordinate health educational activities through wide distribution of releases for newspapers, trade journals, and health department publications. The Worker's Health Series was expanded, and new Public Health Bulletins covered industrial nursing, occupational dermatoses, and the toxicity of PETN, TNT, and DDT.

The United States Bureau of Mines published reports on such subjects as fluorescent minerals, powders used in the plastics industry, and thermal analysis of quartz, and continued its very useful service in approving respiratory protective equipment.

The United States Maritime Commission made extensive studies of the health of shipyard workers. Job requirements in the shipbuilding field were given in detail in "Physical Demands and Capacities Analysis" by the War Manpower Commission.

The United States Children's Bureau added to its series, *Which Jobs for Young Workers?* including advisory standards for the aircraft and the paper and pulp industries. The Women's Bureau issued bulletins on women steel workers, safety clothing, and the plant nurse. The Division of Labor Standards supplied new material on accident prevention, absenteeism, and Neoprene.

Some other organizations which have stimulated interest in industrial health are the Industrial Hygiene Foundation, the National Safety Council, the Chamber of Commerce of the United States, the National Association of Manufacturers, the National Society for the Prevention of Blindness, insurance companies, and medical societies.

INDUSTRIAL HYGIENE COURSES

The large number of industrial hygiene courses, seminars, and institutes given in 1944 indicated the need for personnel with special knowledge in this field. In the larger universities, in medical and public health schools, the number of hours devoted to the subject was increased in both graduate and undergraduate courses. Many safety, medical, and nursing training courses incorporated industrial health problems. A five-day seminar for engineers and chemists preceded the War Conference on Industrial Health at St. Louis in May, 1944. Stepped-up demands of the armed services and of industry made it necessary to stretch public health facilities to the utmost in orientating new industrial hygiene personnel and in meeting the problems of war production and rehabilitation.

INDUSTRIAL PHYSICIANS

The role of industrial physicians during this period can not be overemphasized. An increasing number of physicians devoted their full time to directing modern industrial medical departments, bringing the benefits of therapeutic and preventive medicine and public health principles to large groups of adults. Those physicians, too, who despite wartime demands on their services, worked for industry on a part-time basis, made a real contribution. Individually and through their professional societies, medical men endeavored to bring the best in industrial health practices to the production armies under their care.

NUTRITION

The requirements for fighting a war on a global scale naturally focussed attention on problems of food and nutrition relating to the war. It was necessary to provide proper food both in quality and quantity to our armed forces scattered throughout the world as well as to supply food to allied nations under the lend-lease arrangement. Our lend-lease food was increased from 6 per cent in 1942 to more than 10 per cent in 1943. American food helped greatly to feed not only our own troops but those of Gen. Montgomery in his African Campaign, the RAF, and even civilian war workers in factories of Britain. Russia asked for and was supplied huge amounts of crystalline vitamin C (ascorbic acid) for the winter campaign of her armies.

Associated with this problem was, of course, that of securing greater production of certain foods of special nutritive value such as, for example, milk and milk products. A very large part of our research in this field was centered on technological problems relating to dehydration and other processes found to be important for safe shipment of foods long distances without spoilage. Associated with this there was a general overhauling, so to speak, of our whole food handling situation, to determine where losses of nutritive value occur in the mess kitchens of the armed forces, public institutions, public restaurants, and even the home.

The industrial adjustment to the war precipitated a serious problem of how properly to feed war workers in plants that had expanded tremendously to employ as many as 40,000 to 60,000 and more workers. Much was accomplished toward the solution of this problem but much still remains to be done.

Perhaps the greatest single achievement of this period was the historic Hot Springs Conference to which 44 nations sent representatives to arrange for a mutual attack on food and nutrition problems that had become worldwide. This conference was particularly important because, for the first time in history, the thinking of an international meeting centered around meeting needs based on physiological and scientifically determined requirements instead of economic and commercial considerations; the latter were not ignored, but merely given their due consideration as factors involved in the solution of the problem of need as defined by scientists.

SANITATION

Various experimental studies with DDT (trichloro-bis-chlorophenyl-ethane) give promise that, when made available in sufficient quantities for civilian use, this agent will be most effective in the widespread control of a variety of insects such as mosquitoes and flies which spread disease. DDT may be used as an aerosol, dusting powder, or spray. Only small amounts of this substance are necessary. For example, as an aerosol the mixture may be only 0.5 per cent of DDT, with 6 per cent of sesame oil (or cyclohexanone) and 93.5 per cent Freon gas. It is not very toxic. The use of DDT in concentrations as high as 10 per cent in inert powders for dusting appears to offer no serious hazards to human beings. The insecticidal action of DDT lasts longer than other commonly used substances. Sprayed on the inside walls of a dwelling it has been found deadly to flies for three months. In malarial areas dusting from low flying airplanes not only kills mosquitoes but, unfortunately, harmless insects as well.

VIRUS RESEARCH ADVANCES

Because certain virus diseases are of military importance, the war has stimulated research in this ultra microscopic field. Advances and new discoveries have been made. Previously obscure as to cause and transmission, catarrhal jaundice or infectious hepatitis has now been shown to be caused by a virus which produces infection through the alimentary tract. This disease resembles poliomyelitis in its seasonal limitation.

Some years ago the virus of infantile paralysis was supposed to be carried in droplet spray and to gain entrance through the mucous membrane of the nose. More recent investigations reveal the presence of the virus in the throat and intestines but not in the nose. It is also found in the stools of patients and members of the immediate family but not in those of the general population. To some it may seem that, based only upon the annual number of cases and deaths, poliomyelitis continues to occupy a disproportionately prominent position in the public mind and in the research field as compared with other diseases with much higher morbidity and mortality rates. However, concentration of effort to spearhead advances in knowledge about any one virus disease holds the promise of discoveries which may be applied in acquiring understanding and control of other virus diseases.

U. S. PUBLIC HEALTH SERVICE ACT

A Public Health Service Act was signed by the President July 3, 1944 which streamlines the administration of the Service, bringing together in compact and orderly arrangement substantially all existing laws affecting this Service. It eliminates many outmoded laws and effects revisions dictated by operating experiences. This law, however, retains all the many and important duties previously granted accumulatively by Congress to the P. H. Service in legislation enacted in the past 50 years. Its new provisions include authority to make grants-in-aid to research institutions for any disease, expansion of the Federal-state cooperative public health programs, with increase of budget from $11,000,000 to $20,000,000 annually under Title VI of the Social Security Act; establishment of a national tuberculosis control program ($10,000,000) patterned after the venereal disease control program; and expansion by the commissioning of personnel other than physicians, nurses, dentists, engineers, such as entomologists, chemists, and zoologists.

The Service now includes four major administrative units—Office of the Surgeon General, National Institute of Health (Scientific Research), Bureau of State Services, and Bureau of Medical Services.

Thus the U. S. Public Health Service with less deadwood legislation will become a more compact organization, with a larger spread and flexibility in operation, with a more diversified program, and having greater financial support. It is the first of the older Federal services to be streamlined for the post-war era.

PUBLIC MEDICAL CARE

Facilities for public medical care financed by taxation and administered by public agencies have materially increased. Organized provision for the needy now exists in approximately one fourth of the states through statewide programs, and in a considerable number of communities in other states on the basis of local plans. Particularly noteworthy are developments in New York State, following the revision of the Local Welfare Act in 1941; in Rhode Island, following the adoption of the General Public Assistance Acts of 1942 and 1944; and in Washington, following the passage of the Senior Citizens Grants Act of 1941.

Impact of the war has reduced the volume of public medical care services. With an increase in employment and earnings there has been a reduction in the number of persons applying for medical care at public expense. There has been marked progress in the development of special programs.

Emergency programs for wives and infants of enlisted men in low-pay grades (EMIC) were developed on a large scale during 1943-44 with approximately 400,000 persons provided with maternity service and care of sickness. The Federal appropriation for this service was $29,700,000.

The operation of the crippled children's program was improved through greater emphasis on completeness of care, and coordination with educational and vocational services, and by an increase in Federal grants to the states. More than one-third of the states have approved programs for the care of children with rheumatic fever or heart disease. Federal funds available to the states were increased to more than $5,000,000.

New programs have been inaugurated, such as provision of medical care for disabled civilian adults. The legal basis for such programs rests on the 1943 amendments to the Vocational Rehabilitation Act. Operation is through Federal-state cooperation. The objective is the physical restoration of disabled individuals in need, excluding persons in the armed forces.

Medical care for the control of venereal diseases stressed the establishment of quarantine hospitals and rapid treatment centers. There have been substantial increases in the numbers of treatment clinics.

A nationwide program for the control of tuberculosis was initiated in 1944 following enactment of the Public Health Service Act of 1944. Allocation of $10,000,000 for the fiscal year 1944-45 will aid the states in measures for "the prevention, treatment, and control of tuberculosis . . . including the provision of appropriate facilities for care and treatment . . ."

HEALTH INSURANCE

Growth of non-profit hospital service plans, especially of the Blue Cross plans, continued. By the end of 1944, about 15,000,000 persons were eligible for hospitalization under non-profit hospital service plans.

Non-profit prepayment plans covering physicians' services or a variety of essential services developed less rapidly. In 1944, it is estimated that some 3,000,000 persons are thus covered, mostly in industrial plants.

The Wagner-Murray-Dingell Bill of May 24, 1943 (S. 1161 and H. R. 2861) proposes the introduction of compulsory health insurance including "medical and hospitalization insurance benefits," "maternity insurance benefits," "temporary disability insurance benefits," and "permanent disability insurance benefits." This bill has been the subject of heated discussion. The American Public Health Association, in a report on "Medical Care in a National Health Program," endorsed the principle of a nationwide health program financed by compulsory insurance plus taxation or taxation alone, and a committee of 29 experts has issued under the title "Principles of a Nation-Wide Health Program" a comprehensive analysis of the principles of such a program and the safeguards which should surround it.

LOCAL HEALTH UNITS FOR THE NATION

An increasing realization of the need for better public health coverage for more people is evidenced by the official action taken by several national health organizations. A report by the Committee on Administrative Practice of the American Public Health Association on local health units for the nation states: "What is essential is that no population units or area of the U. S. remain any longer without a full time medically directed health service responsive to the needs and wishes of the people of the area." Approximately 40,000,000 people of the continental United States live in communities where there is no full time local health service. In many other areas none exists of any kind. The Committee's study reveals the need for more, better trained, better paid, full time medical officers of health, and for 1,202 adequately financed local units of health jurisdiction, the jurisdictions and responsibilities of which would be enlarged to cover the entire population. These proposals are for basic minimum health services at a per capita cost of not more than $1.00, the average cost of existing local health services being about 40¢ per capita.

Such an expansion has been supported by other national organizations. The House of Delegates of the American Medical Association took action on June 10, 1942, urging complete coverage of the nation's area and population by full-time modern health services; so did the governing council of the American Public Health Association on Oct. 29, 1942 and the Conference of State and Provincial Health Authorities of North America on March 22, 1944.

DENTISTRY

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COLUMBIA UNIVERSITY

GENERAL

During the year 1944 dentistry has given a good account of itself. The 20,000 odd dentists with the armed forces have rendered excellent service to the millions of enlisted men. The elimination of dental requirements early in the war threw the greatest dental rehabilitation task upon the Army and Navy Dental Corps and they have done and are doing a magnificent job. Dentists attached to hospital and combat units overseas are skilfully handling the large number of jaw injuries, and the 40,000 odd dentists remaining to take care of the needs of civilians are working longer hours than ever before and foregoing vacations in an effort to take care of the most urgent dental needs on the home front.

EDUCATIONAL PROBLEMS OF THE WAR

A new crisis in dental education was precipitated by the abrupt termination by the Army of the Dental Specialized Training Program. This action was taken by the War Department on Aug. 1 because the Army's requirements for dentists for the time being had been filled. Students in their senior year were allowed to finish the course and on graduation receive commissions as first lieutenants in the Dental Corps. The program was discontinued for other dental students at the end of the current semester. They were then permitted to request a discharge and are being granted deferment under Selective Service until the completion of their professional course. Some of the discharged dental students have found considerable difficulty in financing their dental training as civilians, and the psychological effect of being deprived of their uniforms, while medical students, while those in the Navy program were left undisturbed, has had its ill effect.

The curtailment of the Army program, and the discontinuance of deferment for pre-dental and dental students, who are physically fit and over 18 years of age, unless they are already registered in a dental school, will create a serious situation. To make it still worse it has been announced that graduates who are not in a service program, unless they are settled in a position or location which can be declared essential by the Procurement and Assignment Service, are likely to be inducted as privates with little hope of commissions after induction. The present student bodies may remain intact, but for future classes dental students must be recruited from the ranks of the physically disqualified, discharged veterans, or women. The Navy still needs dentists and is expected to continue its College Training Program on an accelerated basis.

Statistics compiled by the Council on Dental Education reveal that in the two years, 1943 and 1944, during which the accelerated program has been in effect, the dental schools have had an output equal almost to three classes instead of two. There were 2,470 graduates from the 39 dental schools in the United States for the year ended June 30, 1944.

POSTGRADUATE TRAINING FOR RETURNING DENTAL OFFICERS

Several questionnaires to dentists in service have revealed a widespread desire for postgraduate and refresher courses, especially on the part of dentists who entered the military service directly upon graduation. Thousands of these young men especially should receive further training to be prepared to engage in civilian practice. At present very few dental schools are able to accommodate any large number of postgraduate students because of depleted teaching staffs and the complete utilization of their facilities in the clinical years by undergraduate students. A number of the dental societies are planning courses, and some thought has been given to the possibility of the Army and Navy providing refresher courses to the dental officers prior to their discharge. This would lighten the load which will unquestionably tax the educational facilities of the country. The Army is now releasing a number of dentists who will undoubtedly be returning to their respective sections of the country, and machinery is needed at once to help these men re-establish themselves to care for the dental health needs of the civilian population.

The educational phase of this readjustment will be furthered by the fact that dental officers who have had at least 90 days of service since Sept. 16, 1940 and who have been honorably released from active service are eligible for post-war education at government expense in a recognized dental school. The officer will receive a stipend up to $50 per month, if single, $75 per month, if married or with dependents. The cost of tuition, instruments, and books will be paid by the Veterans Administration to the institution, with a maximum payment for these purposes of $500.

ORAL ASPECTS IN AERIAL COMBAT

While research activities in the schools have had to be curtailed during the war, a number of valuable studies have arisen as a result of the war and are being carried on in the various military stations and hospitals. The extensive use of high altitude flying in the war and in training for aerial combat has resulted in studies being made regarding the oral aspects of high altitude flights. It would be expected that the combination of lowered temperature and atmospheric pressure encountered at 35,000 to 40,000 feet might result in discomfort in teeth containing large metallic fillings, and in cases of aeroembolism it would seem possible that nitrogen from the blood might be forced into the pulp tissue of teeth and pain might result from pressure of the pulp against the unyielding interior walls of the roots. From observation on the part of dental officers attached to flying units, it would appear that the teeth have sufficient adaptability to acclimate themselves to these changes in the time required to attain the heights at which they exist. However, it appears that high altitude flying does tend to accentuate the symptoms of any pre-existing pathologic process in the teeth or jaws, and toxic conditions in oral tissues as well as elsewhere in the body result in a general debility which would tend to lower the service ceiling and the safety factor for flying personnel.

SULFONAMIDE STUDIES

The sulfonamide drugs have been used in dentistry for the past six years with indifferent results, and many who used the drugs for a time later discontinued doing so. The large number of cases available for its use in connection with the war has led to further study regarding the dosage, effect on specific organisms, and the local application of the drugs to both clean and infected wounds. The results of these studies indicate that the sulfonamides have definite value in the control of infected wounds and following surgical procedures in the mouth. They can not be used, however, as a substitute for meticulous surgical procedures.

PENICILLIN EXPERIMENTS

A progress report on the use of penicillin in treating gingivitis comes from one of the military hospitals. In view of the satisfactory results obtained in using penicillin against the spirochete of syphilis, and the alleged role of certain oral spirochetes in some diseases in the mouth, oral examinations were made of patients receiving penicillin for the venereal disease. In all cases the gingivae were found to be in remarkably good condition in spite of the presence of bleeding gums and ulceration before the treatment was instituted.

Following this observation a controlled experiment was made, using penicillin as the only form of therapy in 15 patients with typical ulceromembranous gingivitis (Vincent's infection). No oral hygiene measures were used, no special diets were prescribed, smoking was not restricted. Penicillin was administered in varying amounts and both intramuscularly and locally. In all cases there was prompt improvement, with relief within 24 hours. This occurred in spite of very unfavorable local conditions. Further study is being made to determine the optimal dosage and the method of choice for administration of the drug.

EFFECT OF DIETARY DEFICIENCIES ON TEETH

An investigation into the dental and oral conditions in the famine districts of Hissar brings forth some important observations relative to immunity to dental caries. The study was made by C. D. Marshall Day, Dean of the Faculty of Dentistry, Punjab University, with the cooperation of the public health department. Famine or sub-famine conditions have existed in this area for long periods of time. The study was made in an effort to determine the effect upon the teeth and supporting structures of these prolonged periods of malnutrition and of specific dietary deficiencies. The study was confined to five of the worst affected cities in the famine stricken area, and to children of an average age of approximately 12 years. Knowing the history of the district, it was safe to assume that during almost the entire calcification period of the teeth, these children had suffered severely from either absolute or relative specific food deficiency.

Data was collected on the incidence of dental caries, hypoplasia, dental plaques, calculus, gingivitis, and malocclusion. Fluorine bearing rock runs through the district, and fluorine is found in the drinking water on the average of 1.62 parts per million. Most of the inhabitants were found to have fluorine intoxication with the typical mottled enamel, hence this condition received special attention.

The results of the investigation tend to disprove the dietary hypotheses which have been advanced in an effort to solve the problem of the etiology of dental caries. The diet of the average American child approaches the modern concept of an adequate diet, yet American children have 35 times as many cavities as those growing up in this famine stricken area. It would seem that the teeth do not share in the general bodily deterioration consequent upon dietary deficiencies though structural changes in the teeth do follow specific deficiencies. It would seem that there are other more potent factors operating to produce caries or to maintain an immunity to dental caries. Heredity may be an important factor, but, if so, this investigation among urban children would indicate that it is rapidly broken down under the influence of other factors and following a departure from a traditional and simple diet. From other studies it seems likely that the fluorine in the drinking water, while producing the disfiguring mottled enamel, was likewise at least partially responsible for the low incidence of dental caries.

ANNIVERSARY OF THE DISCOVERY OF ANESTHESIA

On Dec. 11, 1944 at Hartford, Conn. was celebrated the one hundredth anniversary of the discovery of the phenomenon of general anesthesia by Horace Wells. The question of the priority of the discovery was long debated, but the dental profession has been able to establish beyond doubt the claims of the Wells adherents. Wells was born in 1815 and studied dentistry under a preceptor as was the custom in those days. He took up practice in Hartford. Patients at that time seldom sought the services of a dentist except to get relief from pain, and this was usually accomplished by removing the offending tooth or teeth. For this as for other surgical operations there was no effective means of controlling the pain of the operation.

On Dec. 10, 1844 Wells attended a public exhibition of "laughing gas" as nitrous oxide was then known. It was the custom of the chemist (C. G. Colton) who gave these demonstrations from city to city, to invite persons from the audience to inhale the gas. Their amusing antics while in this state constituted the entertainment for the audience. Wells was one of those invited to the platform, and, after the demonstration, he talked with another participant in the performance about an injury he had received in his leg while under the influence of the gas. The man thus injured stated that he was not aware of any pain at the time it was inflicted. Wells sensed the possibilities of using the gas in the removal of teeth and arranged to have a tooth removed from his own jaw the following day after he had inhaled the gas to the point of insensibility. This had never been done before, and no one knew what might be the consequence. The experiment was a success, and a great discovery was born.

Wells at once proclaimed his discovery of the principles of anesthesia. Nitrous oxide was not to be limited to dental procedures but has come to be used for a wide variety of operations to relieve human suffering. To the many memorials erected by a grateful public in this country and in France was added a plaque on Dec. 11, 1944 marking the site of the home of Horace Wells in Hartford. The Hartford celebration, while the largest, was but the nucleus for many held on that date throughout the nation.

XXIII. MEDICAL SCIENCES

VITAL STATISTICS

By Halbert L. Dunn
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BIRTHS

Although the wartime peak in the birth rate was reached in the fall of 1942, the number of births reported in 1943 was the highest in the history of the country. A total of 2,934,860 births was registered in 1943, an increase of 125,864, or 4.5 per cent, over that recorded in 1942. The crude birth rate based on the estimated population of the United States, including the armed forces overseas, was 21.5 per 1,000 population in 1943, an increase of 2.9 per cent over the corresponding rate of 20.9 for 1942. The birth rate corrected for estimated under-registration of births in 1943 is 23.1 per 1,000 population. The estimated total number of births occurring in the United States (corrected for under-registration) is about 3,000,000 for 1943.

The reported birth rate of 21.5 per 1,000 population in 1943 was the highest recorded for the birth registration states since 1920 and is a continuation of the upward movement in the birth rate since 1933. The increases in the birth rate have been particularly marked since 1940, the greatest annual increase of 10.6 per cent occurring between 1941 and 1942. On the basis of provisional figures, the birth rate for 1944 was lower than that for 1943. It is estimated that approximately 2,800,000 births were registered in 1944, the estimated recorded birth rate being about 20.3 per 1,000 population.

The crude birth rate by state of residence for 1943 ranged from 19.7 per 1,000 estimated civilian population for New York to 31.1 for New Mexico. The birth rate for the District of Columbia was 19.5 per 1,000 estimated civilian population. In general, the highest birth rates were recorded for residents of the Southern and Mountain States, while the lowest were for residents of the Middle Atlantic States.

Increases in the crude birth rates were recorded for every state and the District of Columbia in 1943. The increase in the birth rate based upon the estimated civilian population ranged from a low of 1.4 per cent for Ohio to a high of 16.9 per cent for the residents of Texas.

DEATHS

There were, in 1943, 1,459,544 deaths reported in the continental United States, an increase of 74,357, or 5.4 per cent as compared with the corresponding figure for 1942. The crude death rate, excluding deaths among the armed forces overseas and based upon the estimated continental population, was 10.9 per 1,000 population, an increase of 4.8 per cent over the corresponding rate of 10.4 for 1942. The estimated death rate for the entire population of the United States in 1943, including military deaths overseas and corrected for under-registration of deaths, is about 11.3 per 1,000 population.

Crude death rates by state of residence ranged from 8 per 1,000 population for Utah to 14 for Vermont. In general, the crude death rates were lowest for residents of the west south Central States and highest for the New England States.

The 10 leading causes of death in the United States and their death rates in 1943 were: diseases of the heart, 318.3 per 100,000 population; cancer and other malignant tumors, 124.5; intracranial lesions of vascular origin, 95; nephritis, 74.1; pneumonia (all forms) and influenza, 67.3; accidents, exclusive of motor-vehicle accidents, 56.1; tuberculosis (all forms), 42.6; diabetes mellitus, 27.1; premature birth, 25.8; and motor-vehicle accidents, 17.8 per 100,000 population.

The 10 principal causes of death in 1943 accounted for approximately 78 per cent of all deaths registered. Except for the change in rank order of premature births and diabetes, the list of the 10 principal causes of death in 1943 was the same as that for 1942. Comparison of the death rates for these causes for the two years indicates an increase in the death rate for diseases of the heart, cancer and other malignant tumors, intracranial lesions of vascular origin, nephritis, pneumonia and influenza, accidents, exclusive of motor-vehicle accidents, and diabetes. It is significant that the large majority of these causes are those characteristic of old age. The increase of 20.8 per cent in the death rate for pneumonia and influenza was associated with the influenza epidemic in December, 1943.

INTERPRETATION OF BIRTH AND DEATH RATES IN WARTIME

The interpretation of the wartime crude birth and death rates, particularly those for 1943, is significantly affected by the large troop movement overseas and by the large interstate migration of the population. The unprecedented population movement has resulted in a significant change in the population composition of the various areas. Since crude birth and death rates are affected by such demographic factors as the age and race composition of the population, the present rates are subject to certain limitations not associated with the corresponding rates for the pre-war years. There is no satisfactory solution to this problem of obtaining a set of strictly comparable rates, and the precise evaluation of the wartime crude birth and death rates must be left until a more thorough study can be made.

In the interpretation of crude birth rates for the country as a whole, consideration must be given to the fact that there is a large number of men overseas that could not have contributed to the birth rate in the United States. Since the crude birth rate has been based upon the total population of the United States including the armed forces overseas, the crude rate for 1943 is a less reliable measure of fertility than in former years. The crude birth rates for states, which have been based upon the estimated civilian populations, are still less comparable with the corresponding rates for the pre-war years. Although crude birth rates based upon the civilian population are not particularly satisfactory, they do have the virtue that they are not greatly affected by the presence of large military establishments in certain areas of the country.

In the interpretation of crude death rates, cognizance must be taken of the large number of physically fit males in the armed forces overseas. Aside from the factor of physical selection, the withdrawal of men of military age from the continental United States has caused an increase in the average age of the remaining population. Since the death rate for men of military age is normally low, the crude death rate is affected by the changing age composition of the population even though the men in the overseas service have been excluded from the population base.

INFANT AND MATERNAL MORTALITY

The infant mortality rate for 1943 as conventionally computed was 40.4 per 1,000 live births, representing no change as compared with the corresponding rate for 1942. When adjusted on a provisional basis for the increase in the number of births from 1942 to 1943, the provisional adjusted rates indicate a slight decrease from 41.2 to 40.7 per 1,000 live births. This decrease is not as great as those experienced in recent years.

The maternal mortality rate of 2.5 per 1,000 live births in 1943 was 3.8 per cent lower than the corresponding rate of 2.6 for 1942. The maternal mortality rate for 1943 was the lowest reported since the formation of the birth registration area and is undoubtedly also the lowest rate ever experienced in the history of the country.

PUBLICATIONS

The following regular series of publications were issued during 1944: *Vital Statistics of the United States, 1942, Part I and Part II*; the *Weekly Mortality Index; The Registrar,* a monthly release; the *Monthly Vital Statistics Bulletin;* the *Current Mortality Analysis,* a monthly release; the *Annual and Quarterly Summaries of Motor Vehicle Accident Fatalities; Vital Statistics—Special Reports: Selected Subjects* (Volume 19, Numbers 1-21), containing special studies and special subject matter summaries based on 1942 data; *Vital Statistics—Special Reports: State Summaries,* Volume 20 containing summaries of 1942 data for the United States, each state, and the territories of Hawaii and Puerto Rico, and the Virgin Islands.

COORDINATION OF VITAL RECORDS AND VITAL STATISTICS

A considerable advance has been made in coordinating the vital records offices of the country into a more closely knit system of vital records and vital statistics. Since there are 53 autonomous registration units in the United States, comprised of the vital statistics offices of the 48 states and five independent registration cities, it is not astonishing that there are 53 modifications of how things are accomplished. Registration problems have become so complex and numerous in the last five years, primarily because of the increased use of vital records, that difficulties in the existing system have been brought into sharp relief. Registration officials are keenly aware of the situation, and consequently organized during 1944 a Council on Vital Statistics and Vital Records having as its purpose the coordination of interstate and national practices with respect to vital records and vital statistics. The Council is organized as a representative body of registration officials collaborating with the Bureau of the Census. A Plan for the Coordination of Vital Records and Vital Statistics has been recommended by the Council to the registration officials of the states for their ratification. This Plan is an attempt to solve the various problems of registration as interrelated parts of the national vital records system, rather than approaching them as separate problems to be solved in different ways in the various states.

TABLE A

BIRTH, DEATH, MATERNAL DEATH, AND INFANT DEATH RATES AND STILLBIRTH RATIOS: REGISTRATION STATES FOR SPECIFIED YEARS

Year	Rate per 1,000 Estimated Population		Rate per 1,000 Live Births		Stillbirths per 1,000 Live Births
	Birth[1]	Death[2]	Maternal Death	Infant Death	
1943	21.5	10.9	2.5	40.4	26.7
1942	20.9	10.4	2.6	40.4	28.2
1941	18.9	10.5	3.2	45.3	29.9
1940	17.9	10.7	3.8	47.0	31.3
1939	17.3	10.6	4.0	48.0	32.0
1938	17.6	10.6	4.4	51.0	32.1
1937	17.1	11.3	4.9	54.4	33.4
1936	16.7	11.6	5.7	57.1	34.4
1935	16.9	10.9	5.8	55.7	35.8
1934	17.2	11.1	5.9	60.1	36.2
1933	16.6	10.7	6.2	58.1	37.0
1932	17.4	10.9	6.3	57.6	37.8
1931	18.0	11.1	6.6	61.6	38.2
1930	18.9	11.3	6.7	64.6	39.2
1925	21.3	11.7	6.5	71.7	38.1
1920	23.7	13.0	8.0	85.8	—
1915	25.0	13.2	6.1	99.9	—
1910	—	14.7	—	—	—
1905	—	15.9	—	—	—
1900	—	17.2	—	—	—

[1] Rates based on total population including the armed forces overseas.

[2] Rates for 1940–1943 based on the continental population excluding the armed forces overseas.

TABLE B

NUMBER OF DEATHS AND RATES FOR THE FIVE LEADING CAUSES OF DEATH IN EACH AGE GROUP, BY RACE: UNITED STATES, 1943

Age and Cause of Death	Number of Deaths			Rate[1] per 100,000 Population		
	Total	White	Non-white	Total	White	Non-white
Under 1 year:						
All causes	118,484	97,229	21,255	4,296.7	3,958.3	7,056.5
Premature birth	34,563	29,469	5,094	1,253.4	1,199.7	1,691.2
Pneumonia (all forms) and influenza	18,207	13,810	4,397	660.3	562.2	1,459.8
Congenital malformations	14,435	13,529	906	523.5	550.8	300.8
Injury at birth	10,990	9,874	1,116	398.5	402.0	370.5
Diarrhea, enteritis, etc	8,756	6,997	1,759	317.5	284.9	584.0
Other causes	31,533	23,550	7,983	1,143.5	958.7	2,650.3
1–4 years:						
All causes	23,903	18,950	4,953	255.7	232.2	417.7
Pneumonia (all forms) and influenza	5,100	3,844	1,256	54.6	47.1	105.9
Accidents excluding motor-vehicle accidents	3,947	3,205	742	42.2	39.3	62.6
Diarrhea, enteritis, etc	1,578	1,103	475	16.9	13.5	40.1
Congenital malformations	1,070	984	86	11.4	12.1	7.3
Motor-vehicle accidents	1,024	917	107	11.0	11.2	9.0
Other causes	11,184	8,897	2,287	119.6	109.0	192.9
5–14 years:						
All causes	20,968	17,222	3,746	95.8	90.3	133.5
Accidents excluding motor-vehicle accidents	4,677	3,913	764	21.4	20.5	27.2
Motor-vehicle accidents	1,959	1,751	208	9.0	9.2	7.4
Pneumonia (all forms) and influenza	1,749	1,322	427	8.0	6.9	15.2
Diseases of the heart	1,366	1,110	256	6.2	5.8	9.1
Appendicitis	1,046	908	138	4.8	4.8	4.9
Other causes	10,171	8,218	1,953	46.5	43.1	69.6
15–24 years:						
All causes	46,816	35,613	11,203	204.7	176.1	423.5
Accidents excluding motor-vehicle accidents	10,756	9,579	1,177	47.0	47.4	44.5
Tuberculosis (all forms)	7,942	4,025	3,917	34.7	19.9	148.1
Motor-vehicle accidents	4,522	4,092	430	19.8	20.2	16.3
Diseases of the heart	3,152	2,524	628	13.8	12.5	23.7
Pneumonia (all forms) and influenza	2,337	1,702	635	10.2	8.4	24.0
Other causes	18,107	13,691	4,416	79.2	67.7	166.9
25–44 years:						
All causes	149,967	113,568	36,399	376.1	318.4	865.8
Diseases of the heart	24,088	18,907	5,181	60.4	53.0	123.2
Tuberculosis (all forms)	20,497	13,780	6,717	51.4	38.6	19.8
Cancer and other malignant tumors	15,105	12,865	2,240	37.9	36.1	53.3
Accidents excluding motor-vehicle accidents	13,758	11,928	1,830	34.5	33.4	43.5
Pneumonia (all forms) and influenza	8,636	6,035	2,601	21.7	16.9	61.9
Other causes	67,883	50,053	17,830	170.2	140.3	424.1
45–64 years:						
All causes	411,549	353,983	57,566	1,492.8	1,396.1	2,601.5
Diseases of the heart	132,934	117,145	15,789	482.3	462.0	713.5
Cancer and other malignant tumors	68,954	63,272	5,682	250.1	249.5	256.8
Intracranial lesions of vascular origin	36,182	28,739	7,443	131.2	113.3	336.4
Nephritis	27,811	21,181	6,630	100.9	83.5	299.6
Pneumonia (all forms) and influenza	18,878	15,237	3,641	68.5	60.1	164.5
Other causes	126,790	108,409	18,381	459.9	427.6	830.7
65 years and over:						
All causes	686,248	643,197	43,051	7,103.8	7,131.8	6,711.2
Diseases of the heart	264,062	250,916	13,146	2,733.5	2,782.2	2,049.3
Intracranial lesions of vascular origin	84,833	78,724	6,109	878.2	872.9	952.3
Cancer and other malignant tumors	80,305	77,326	2,979	831.3	857.4	464.4
Nephritis	61,819	55,482	6,337	639.9	615.2	987.9
Pneumonia (all forms) and influenza	35,132	32,572	2,560	363.7	361.2	399.1
Other causes	160,097	148,177	11,920	1,657.3	1,643.0	1,858.2

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[1] Based on the continental population excluding the armed forces overseas.

XXIII. MEDICAL SCIENCES

TABLE C

DEATH RATES PER 100,000 ESTIMATED POPULATION FOR SELECTED CAUSES: UNITED STATES, 1941-1943

Cause of Death	1943[1]	1942[1]	1941[1]
All causes	1,089.5	1,035.5	1,050.4
Typhoid and paratyphoid fever 1, 2	0.5	0.6	0.8
Cerebrospinal (meningococcus) meningitis 6	2.2	0.7	0.5
Scarlet fever 8	0.3	0.3	0.3
Whooping cough 9	2.5	1.9	2.8
Diphtheria (infection by C. diphtheriae) 10	0.9	1.0	1.0
Tuberculosis (all forms) 13–22	42.6	43.1	44.5
Tuberculosis of the respiratory system 13	39.1	39.6	40.9
Tuberculosis (other forms) 14–22	3.4	3.5	3.7
Dysentery 27	1.4	1.4	1.8
Malaria 28	0.5	0.6	0.9
Syphilis 30	12.1	12.2	13.3
Measles 35	1.0	1.0	1.7
Poliomyelitis, polioencephalitis (acute) 36	0.9	0.4	0.6
Cancer and other malignant tumors 45–55	124.5	122.1	120.2
Cancer of the digestive organs and peritoneum 46	57.1	55.9	54.9
Cancer of female genital organs 48, 49	16.2	15.7	15.9
Cancer of the breast 50	12.0	11.9	11.7
Cancer (other sites) 45, 47, 51–55	39.2	38.6	37.7
Acute rheumatic fever 58	1.1	1.1	1.2
Diabetes mellitus 61	27.1	25.4	25.5
Exophthalmic goiter 63b	2.1	2.2	2.5
Pellagra (except alcoholic) 69	1.0	1.1	1.4
Alcoholism (ethylism) 77	1.6	1.9	1.8
Intracranial lesions of vascular origin 83	95.0	90.2	89.1
Diseases of the heart 90–95	318.3	295.2	290.2
Chronic rheumatic diseases of the heart 90a, 92b, c, 93c, 95b	20.3	18.9	19.8
Diseases of coronary arteries and angina pectoris 94	90.1	84.9	80.5
Diseases of the heart (other forms) 90b, 91, 92a, d, e, 93a, b, d, e, 95a, c	207.9	191.4	189.9
Pneumonia (all forms) and influenza 107–109, 33	67.3	55.7	63.9
Bronchopneumonia 107	25.8	22.9	23.6
Lobar pneumonia 108	23.2	20.5	20.8
Pneumonia (unspecified) 109	5.4	4.1	3.7
Influenza 33	12.9	8.1	15.8
Ulcer of stomach or duodenum 117	7.0	6.9	6.7
Diarrhea, enteritis and ulceration of intestines 119, 120	9.6	8.8	10.5
Appendicitis 121	6.1	6.3	8.1
Hernia and intestinal obstruction 122	9.3	8.6	8.7
Cirrhosis of the liver 124	9.4	9.4	8.9
Biliary calculi and other diseases of the gallbladder and biliary ducts 126, 127	5.1	5.1	5.7
Nephritis 130–132	74.1	72.4	75.1
Diseases of the prostate 137	6.2	6.0	6.2
Diseases of pregnancy, childbirth, and the puerperium 140–150	5.4	5.4	6.0
Puerperal septicemia 140, 142a, 145A, 147	1.9	2.1	2.4
Puerperal toxemia 141a, c, 144, 148	1.4	1.4	1.5
Hemorrhage, trauma, and shock 141b, 142b, 143, 146, 149	1.5	1.5	1.5
Other puerperal causes 141d, e, f, 145B, 150	0.5	0.4	0.5
Congenital malformations 157	12.5	11.9	10.5
Premature birth (cause not stated) 159	25.8	25.8	25.1
Suicide 163, 164	10.2	12.0	12.9
Homicide 165–168	5.0	5.8	6.0
Accidental causes 169–195	73.9	71.7	76.3
Motor-vehicle accidents 170	17.8	21.2	30.0
Other accidents 169, 171–195	56.1	50.5	46.3
Senility, ill-defined and unknown causes 162, 199, 200	23.3	22.3	22.3
All other causes	103.8	98.7	97.5

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[1] Rates based on the continental population excluding the armed forces overseas.

PERIODICAL PUBLICATIONS

American Druggist
572 Madison Ave., New York City.
American Journal of Anatomy
36th Street and Woodland Ave., Philadelphia.
American Journal of Clinical Pathology
Mount Royal and Guilford Aves., Baltimore, Md.
American Journal of the Medical Sciences
600 Washington Sq., Philadelphia.
American Journal of Nursing
1790 Broadway, New York City.
American Journal of Obstetrics and Gynecology
3523 Pine Boulevard, St. Louis, Mo.
American Journal of Pathology
East University Ave., Ann Arbor, Mich.
American Journal of Pharmacy
Philadelphia College of Pharmacy and Science, Philadelphia.
American Journal of Public Health and the Nation's Health
1790 Broadway, New York City.
American Journal of Surgery
49 West 45th Street, New York City.
Anatomical Record
36th Street and Woodland Ave., Philadelphia.
Annals of Surgery
227 S. Sixth Street, Philadelphia.
Journal of the American College of Dentists
350 Post St., San Francisco.
Journal of the American Dental Association
222 East Superior Street, Chicago.
Journal of the American Institute of Homeopathy
1601 Chestnut St., Philadelphia, Pa.
Journal of the American Medical Association
535 N. Dearborn Street, Chicago.
Journal of the American Pharmaceutical Association
2215 Constitution Ave., Washington, D. C.
Journal of Bacteriology
Mount Royal and Guilford Aves., Baltimore, Md.
Journal of Bone and Joint Surgery
8 The Fenway, Boston.
Journal of Clinical Investigation
300 Longwood Ave., Boston.
Journal of Dental Research
1121 Michigan St., Indianapolis.
Journal of Experimental Medicine
York Ave. and 66th Street, New York City.
Journal of Infectious Diseases
5750 Ellis Ave., Chicago.
Journal of Nervous and Mental Disease
64 West 56th Street, New York City.
Journal of Pharmacology and Experimental Therapeutics
Mount Royal and Guilford Aves., Baltimore, Md.
Journal of Social Hygiene
1790 Broadway, New York City.
Medical Life
4 St. Luke's Place, New York City.
Medical Record
215 Fourth Ave., New York City.
Medical Review of Reviews
4 St. Luke's Place, New York City.
Medicine
Mount Royal and Guilford Aves., Baltimore, Md.
N. Y. State Journal of Medicine
292 Madison Ave., New York City.
Radiology
607 Medical Arts Building, Syracuse, N. Y.
Surgery, Gynecology and Obstetrics
54 East Erie Street, Chicago.
Yale Journal of Biology and Medicine
333 Cedar St., New Haven, Conn.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

Academy of Medicine, 2 E. 103rd St., New York City.

Alliance Against Frauds, 36 W. 44th St., New York City.

Allied Dental Council, 145 W. 57th St., New York City.

American Academy of Applied Dental Science, 587 Fifth Ave., New York City.

American College of Surgeons, 40 E. Erie St., Chicago, Ill.

American Gynecological Society, 842 Park Ave., New York City.

American Heart Assn., Inc., 1790 Broadway, New York City.

American Institute of Homeopathy, 280 Madison Ave., New York City.

American Laryngological, Rhinological and Otological Society, Inc., 277 Alexander St., Rochester, N. Y.

American Medical Assn., 535 N. Dearborn St., Chicago, Ill.

American Public Health Association, 1790 Broadway, New York City.

American Ophthalmological Society, 303 Whitney Ave., New Haven, Conn.

American Osteopathic Assn., 540 N. Michigan Ave., Chicago, Ill.

American Physiological Society, 19 W. Chase St., Baltimore.

American Society of Clinical Pathologists, 531 N. Main St., South Bend, Ind.

American Society for the Control of Cancer, Inc., 350 Madison Ave., New York City.

American Society of Tropical Medicine, Ohio State University College of Medicine, Columbus, Ohio.

American Veterinary Medical Assn., 600 S. Michigan Ave., Chicago, Ill.

Association of American Medical Colleges, 5 S. Wabash Ave., Chicago, Ill.

Association of Military Surgeons of the U. S., Army Medical Museum, Washington, D. C.

Association of Schools of Public Health, Johns Hopkins University, School of Public Health, Baltimore, Md.

Commonwealth Fund, 41 E. 57th St., New York City.

Edward L. Trudeau Foundation for Research and Teaching in Tuberculosis, Saranac Lake, N. Y.

John and Mary R. Markle Foundation, 14 Wall St., New York City.

Josiah Macy, Jr. Foundation, 565 Park Ave., New York City.

National Institute of Health, Bethesda, Md.

National League of Nursing Education, 1790 Broadway, New York City.

National Tuberculosis Assn., 1790 Broadway, New York City.

New York Academy of Sciences, 77th St. and Central Park West, New York City.

New York Health Department, Inc., 125 Worth St., New York City.

Osteopathic Assisting Service Bureau, 60 East 42nd St., New York City.

Public Health Relations Committee of New York Academy of Medicine, 2 E. 103rd St., New York City.

Rockefeller Foundation, 49 W. 49th St., New York City.

Society of American Bacteriologists, Agricultural Hall, University of Wisconsin, Madison, Wis.

Society of Medical Jurisprudence, New York Academy of Medicine, New York City.

Southern Medical Assn., 1020 Empire Bldg., Birmingham, Ala.

United Hospital Fund, 370 Lexington Ave., New York City.

W. K. Kellogg Foundation, Battle Creek, Mich.

DIVISION XXIV

PSYCHOLOGY AND PHILOSOPHY

PSYCHOLOGY

By Wilbur S. Hulin
Professor, Pacific University

GENERAL

Texts.—R. S. Woodworth and M. R. Sheehan have written a textbook containing the standard, scientific data of psychology for use in the high school; the book is called *First Course in Psychology* (Holt). S. S. Sargent's volume on *The Basic Teachings of the Great Psychologists* (New Home Lib.) is an introductory psychology consisting of brief notes on the experimental work of about 250 authors past and present. F. K. Berrien's *Practical Psychology* (Macmillan) has some good, new material on advertising and courtroom techniques. H. Deutsch contemplates *The Psychology of Women* (Grune & Stratton) from a psychoanalytic viewpoint. S. L. Pressey and F. P. Robinson indicate the relationship between *Psychology and the New Education* (Harper).

Theory.—The old question as to the appropriate place of conscious experience in scientific psychology has been revived by P. Crissman who decides that neither consciousness nor objective forces can maintain a transcendental position exclusive of the other (*Psych. Rev.*, May). I. D. London has expressed a timely judgment which is consonant with a widespread opinion, namely, that the auxiliary concepts of physics and mathematics have been spuriously applied to psychological concepts, as is conspicuously illustrated in K. Lewin's "topological psychology" (*ibid.* Sept.). A. T. Poffenberger and A. I. Bryan have drawn up a chart to demonstrate a proposed unification of psychology by organizing the relationships among the various special branches (*J. Consult. Psych.*, July-Aug.). The February issue of the *Review of Educational Research* contains an annotated bibliographical survey of "psychological tests and their uses" (for the period from July, 1940-July, 1943); intelligence and personality tests are included.

WAR FACTORS

Training.—Of the 1,262 professional psychologists who are participating in full or part-time military service, most are contributing to the training programs which are being conducted by the various branches of the service; monthly reports on the activities of these psychologists are published in the *Psychological Bulletin.* The Committee on Selection and Training of Aircraft Pilots of the National Research Council has opened an Institute of Aviation in which a complete research program on the human factors in aviation will be centered at the Institute.

Military Psychiatry.—M. J. Farrell and J. W. Appel say that the whole conception of mental health by military and civilian personnel has undergone an extensive revision: it has been necessary to show a wide range of gradation in the degrees of severity of adjustment in maladjustments (there is not a simple "black-white" differentiation); a new set of terminology has been devised by army psychiatrists which eliminates the mystical connotations usually associated with names that include the syllable "psych" (*Amer. J. Psychiat.*, July). W. C. Menninger has reported that "30 to 40 per cent" of battle psychoneurosis is cured and the subjects are returned to duty within 48 hours (*N. Y. Herald Tribune*, 5/10/44). The American Psychiatric Association's committee on Public Education (including C. C. Burlingame, K. Bowman, and W. Overholser) has disputed the accusation by H. C. Link (*Amer. Merc.*, July) that psychiatrists on military duty are "creating" mental disabilities; the committee presents statistics to show the exact number and kind of diagnoses made (*J. Nerv. & Ment. Dis.*, Oct.). H. M. Fox describes a variety of furlough psychoses which occur when the individual leaves the simplicity of the army routine (*Psychiat.*, Aug.). H. L. Freedman explains the organized program of mental hygiene "first aid" which is given to the soldier just before entering combat (*Ment. Hyg.*, Apr.).

PERSONALITY

Guidance.—*Guidance and Personnel Services in Education* (Cornell Univ.), by A. R. Reed, supplies an historical survey of guidance work in America, also recommendations for guidance programs. D. A. and E. C. Laird offer a popular book on *The Technique of Handling People* (McGraw-Hill). A handbook, *Personality and the Behavior Disorders* (Ronald), edited by J. McV. Hunt, describes a wide range of experimental and clinical research on such problems as human and animal conditioning, encephalography, and emotional tensions in delinquents.

Tests.—S. M. A. Tschechtelin has constructed a personality rating scale of 22 items which are easily understood by children; the scale offers an opportunity for comparative study of ratings by persons of all ages (*J. Psych.*, July). H. A. Murray's Thematic Apperception Test was presented to groups of persons who responded as a group; R. M. Clark found that, while certain individual problems were not revealed, there was, however, a test of social adaptation (*Genet. Psych. Monog.*, Aug.).

Influences.—H. W. Wright reminds us that the intellectual aspects of man's activities play an important part in the establishment, development, and integration of his personality (*Amer. J. Psych.*, July). S. Rosenzweig believes that the work of Murray, Allport, and Lewin marks a converging approach to the study of personality (*Psych. Rev.*, July). Stutterers were found by L. H. Richardson to be more introverted, more depressed, and less happy-go-lucky than non-stutterers (*Psych. Monog.*, no. 260). G. R. Thornton found that persons wearing glasses were judged to be more intellectual, industrious, honest and dependable than when they were not wearing glasses (*J. Appl. Psych.*, June).

SENSATION

General.—Sensation is defined by A. L. Hammond as being more than a screen on which observed fact is projected; instead, it is an active participation process; it is adjustive rather than contemplative (*Phil. Mag.*, May).

Vision.—A list of 40 items involved in the psychophysics of color has been compiled by the committee on colorimetry of the Optical Society of America (*J. Optic. Soc. Amer.*, May). In color blind persons, C. Taylor found that the negative after-images are restricted to blues, yellows, and greys; in color-weak individuals the negative after images are comparable to those of normal subjects; this method helps to distinguish different degrees of color blindness (*J. Exper. Psych.*, Aug.). The dominant eye can be determined by the simple test of having a person look at themselves in a tiny mirror in which they can peer with only one eye at a time: B. Crider (*J. Gen. Psych.*, Oct.). Night blindness, and possibly near sightedness, are reduced by an increase of carotene in the diet: H. K. Mull, C. Johnson, and M. Saunders (*Amer. J. Psych.*, Jan.). K. Dunlap doubts that there is any binocular color mixing (*Psych. Bull.*, Oct.).

Audition.—L. A. Jeffres measured certain persistent differences in pitch sensitivity between the two ears and decided that anatomical differences in the cochlear structure of the internal ears account for the discrepancy (*Amer. J. Psych.*, Jan.). Noises which "mask" individual tones in human hearing have been shown by R. Galambos to inhibit the neural impulses of single auditory fibers in the cat (*J. Neurophysiol.*, Sept.).

Touch.—A wide review of literature on "pain," with its implications for physiology and psychology, is offered by C. Binger (*Psychosom. Med.*, July). The skin and muscle aftereffect of strain, called the "floating sensation," is explained by M. J. Zigler as being due to reduced excitation of proprioceptive pathways (*Psych. Rev.*, Sept.). G. H. Bishop offers new histological evidence of pain spots in the skin (*J. Neurophysiol.*, May).

Taste and Smell.—Sensitivity to certain tastes is found to be in increasing order more acute in monkey, chimpanzee, man, and rat: H. D. Patton and T. C. Ruch (*J. Comp. Psych.*, Feb.). A bitter-sour taste hallucination occurred in a sufferer of enlarged arteries in the parietal area; no olfactory hallucinations were present: H. A. Shenkin and F. H. Lewey (*J. Nerv. & Ment. Dis.*, Oct.). N. Bull posits a phylogenetic origin of aesthetic attitudes from the olfactory sense and the participation of olfactory responses in all human attitudes (*J. Psych.*, Jan.). There is great individual difference in odor preferences, according to M. D. Eysenck; aromatic and balsamic odors are most commonly preferred (*J. Exper. Psych.*, June).

Perception.—Children are more acute than are monkeys in distinguishing visual motion at low illumination; monkeys are more consistent in their acuteness (*Arch. Psych.*, no. 288). In reproducing geometrical designs, children tend to simplify the design by making it square instead of rectangular, by rounding off the corners, and by making rectangular rather than diagonal arrangements, according to G. Hildreth (*J. Genet. Psych.*, June). Better visibility in signs and auto license numbers has been created by C. Berger by improving the stroke-width, form and spacing of the numerals (*J. Appl. Psych.*, Aug.). Blind persons possess "facial vision" consisting of a perceptual complex from the skin of the face and from the sense of hearing: M. Supra, M. Cotzin, and K. M. Dallenbach (*Amer. J. Psych.*, Apr.). F. Heider and M. Simmel declare that a careful study should be made of the perceptual processes which are employed when one is observing social behavior (*ibid.* Oct.).

AFFECTION

Feeling.—W. A. Bousfield has derived a formula to indicate that the greater number of pleasant memories, usually retained, is owing to the fact that in recalling pleasant memories "the rate of production of items is proportional to the number of available remaining associates" (*J. Gen. Psych.*, Apr.). The likes and dislikes of persons toward motion pictures vary with age and sex: youth likes pictures with strong personality characterizations; older persons are less critical of realistic values, and are more appreciative of recreational and aesthetic values; men are more critical than women; men prefer vivid plots; women prefer emotional situations, according to R. Lassner (*ibid.* Oct.). Praise is more effective in increasing the work output of introverts than of extroverts; blame increases the work of extroverts; either praise or blame is more effective than is a lack of motivating comment (*J. Educ. Psych.*, May).

Emotion.—Emotional excitement causes distinct changes in the electroencephalographic rhythms of the premotor area of the cortex: J. W. Thiesen (*Arch. Psych.*, no. 285). A. F. Zander argues that the aggression resulting from frustration is a normal, healthy reaction rather than a neurotic form of adjustment (*Psych. Monog.*, no. 256). Panic is an emotion on which there is need of experimental study; usually, panic arises before any arrangements for scientific study can be made: A. L. Strauss (*J. Abn. & Soc. Psych.*, July). Emotionality or its lack is not related significantly to efficiency in school work, according to S. W. Gray (*J. Educ. Psych.*, May).

Aesthetics.—The subject-matter of art, according to A. Isenberg, fluctuates between the extremes of sensation and pure cognition; to resolve this contradiction it should be realized that the "immediate" data is not wholly sensuous (*J. Philos.*, Oct.). Arguing from history, A. Child claims that aesthetic values have been dictated largely by political power (*Philos. Rev.*, Jan.). America's aesthetic standards, as reflected by Hollywood movies, are of a doubtful quality; for example, Japan exhibited our motion pictures to illustrate the vulgarity of our taste (*J. Aesth. & Art. Crit.*, Sept.).

THOUGHT PROCESSES

Reasoning.—J. J. B. Morgan and J. T. Morton demonstrated the influence of personal prejudices upon the conclusions reached through the use of formal, syllogistic logic (*J. Soc. Psych.*, Aug.). There is a higher frequency of animistic thinking in the feeble minded than in the normal child: H. Werner and D. Carrison (*Amer. J. Ment. Defic.*, Jan.). If no impairment of abstract thinking be present before the surgical sectioning of the frontal lobes of the brain there will not necessarily be any impairment after the operation; preoperative mental tests should always be administered: G. W. Kisker (*Psychosom. Med.*, Apr.). C. L. Hull says that human reason adds an appreciation of value to the concrete material and exact methodology of science (*Philos. of Sci.*, July).

Problem Solving.—Problem solving in man and animal has been fully reviewed by D. M. Johnson (*Psych. Bull.*, Apr.). When working alone children solve more problems in arithmetic, but take longer than when working cooperatively: S. F. Klugman (*J. Educ. Psych.*, Feb.).

Intelligence.—A. H. Maslow specifies the "rate of improvement" as the basic element in intelligence; persons with slower rates of improvement appear to be declining (*J. Gen. Psych.*, July). S. L. Pressey maintains that the peak of mental alertness and productivity occurs around the age of 20 years (*J. Psych.*, Oct.). T. M. Livesay reports that differences in intelligence of the high school seniors in Hawaii agree with differences in economic level and differences in economic level agree with the recency of arrival of various groups (*Amer. J. Psych.*, Jan.). E. L. Thorndike insists that the intellectual resemblance of siblings produces a correlation above .70, rather than below .50 as claimed by others (*J. Genet. Psych.*, June).

LEARNING

Texts.—W. H. Burton's *The Guidance of Learning Activities* (Appleton-Century) deals with the general principles of learning and also with the organizational procedure in classroom study and recitation. A quantitative study of the modification of human conduct by legal control is discussed in *Law and Learning Theory* (Quinnipiac) by U. Moore and C. C. Callahan.

Principles.—J. P. Seward, J. B. Dill, and M. A. Holland experimentally tested Guthrie's theory that only the final response in a learning series remain conditioned to the stimulus and they found an alternative process, namely, of generalization of the several responses to the stimulus (*J. Exper. Psych.*, June). M. H. Marx demonstrated that as rats are trained in an increasing number of water mazes their retention of the earliest learned mazes is proportionately inhibited (*Comp. Psych.* Monog., March). Learning by the use of silent films alone is no greater than by the ordinary lecture methods, but the use of silent films enhances the learning when used as a supplement with other instructional methods: C. D. Jayne (*J. Educ. Res.*, Sept.).

Memory.—R. D. Williams and G. W. Knox list as dynamic principles governing memory: deviation toward familiar forms, symmetry and simplicity, good continuation (such as rhythm), stability, interference of behavioral tensions (*J. Gen. Psych.*, Apr.).

PHYSIOLOGICAL

Nervous System.—A succinct portrayal of the structures and mechanisms of the cerebrum is given by J. W. Papez (*Amer. J. Psych.*, July); excellent three-dimensional representations are included. Nervous function is essentially compensatory, writes W. Riese: compensation represents the replacement of one process by a new process, not merely a substitution, as in growth (*J. Nerv. & Ment. Dis.*, Sept.).

Clinical.—Tuberculosis infection may cause individual personality conflicts such as acute anxiety; no generalized emotional characteristics exist as is sometimes asserted: J. Hartz (*Psychosom. Med.*, Jan.). An exact measurement of palmar sweat shows that this function can be used to diagnose psychoneurosis, according to J. J. Silverman and V. E. Powell (*ibid.* July). Asthma is a functional ailment which symbolizes the attempt by the individual to rid himself of undesirable qualities, claim E. A. Brown and P. L. Goitein (*Psychoanal. Rev.*, July). Severe electrical shocks occasionally produce psychoneurotic symptoms which are similar to the postencephalitic symptoms: B. L. Spencer (*Psych. Bull.*, June).

Motor Response.—G. H. Hyslop uses a rapid head movement (a 60 degree excursion, and two excursions per second) as a test of the equilibratory function (*Arch. Neurol. & Psychiat.*, Aug.). Unskilled swimmers expend two to five times more energy than skilled swimmers: P. V. Karpovitch and N. Millman (*Amer. J. Physiol.*, Aug.). The treatment of stuttering at the present time includes an adaptable program of meeting the individual's needs which have been thwarted and which have resulted in a defensive attitude expressed through the speech defect: J. B. Rotter (*J. Abn. & Soc. Psych.*, Apr.).

ANIMAL PSYCHOLOGY

History.—M. I. Bentley outlines the development of animal psychology from the uncritical folk-belief in rational processes (*e.g.* in the ground hog and in migrant birds), through the period of non-mental and over-simplified neurological descriptions of behavior, and finally to the current organismic viewpoint (*Amer. J. Psych.*, Jan.).

Abilities.—W. F. Allen has compared a dog's ability to respond differentially to auditory, olfactory, cutaneous, and optic analysers; the conditioned differentiation was elicited in all but the optic situations (*J. Gen. Psych.*, July). As a result of the feeding of sodium bromide to pregnant rats the offspring exhibited poorer ability to learn mazes than did the offspring of normal rats, according to H. C. Hamilton and B. K. Harned (*J. Psych.*, Oct.). A. R. Shadle has depicted the puppy-like play in which porcupines indulge (*J. Comp. Psych.*, June). Pigs display tantrums when a change in restrictions is made whether in the direction of greater or of less freedom: F. L. Marcuse and A. U. Moore (*ibid.* July).

Social.—Flocks of hens which remain together for a period of time until they become acquainted, eat more food, lay more eggs, increase in weight, and peck each other less than do flocks in which the members are continually changed (*Physiol. Zool.*, July). M. J. Herbert and C. M. Harsh demonstrated that kittens profit by observing other, trained cats in the maze-learning situation (*J. Comp. Psych.*, Apr.).

CHILDREN

Development.—H. J. Baker's *Introduction to the Psychology of Exceptional Children* (Macmillan) concerns both superior and handicapped children; stress is laid on the problems of mild deviates; a great many concrete examples are presented. A. H. Bowley has written a book of advice on *Guiding the Normal Child* (Philos. Lib.). L. Cole treats the steps involved in *Attaining Maturity* (Farrar & Rinehart). The social and emotional development of young children was studied by G. G. Thompson under two types of educational program: (A) play materials were prepared beforehand; teacher was sympathetic, but the child's play was not personally directed; (B) play materials were not pre-arranged; teacher becomes a personal companion closely directing the child's play: in subsequent tests the children included in the highly guided group B were more ascendent, more constructive, and showed greater participation and leadership; these qualities developed through "teacher extensive" environmental impacts; a reduction of these traits comes from an "other-child restrictive" environmental impact (*Psych.*, Monog., no. 258).

Welfare.—A description of *Institutions Serving Children* (Russell Sage Foundation) and the mental hygiene processes they employ is offered by H. W. Hopkirk for the use of social workers. The Child Study Association of America (New York) has published two illustrated booklets for the mothers of young children: *What Makes a Good Home* and *What Makes Good Habits.* J. H. S. Bossard suggests that owning a dog contributes greatly to good mental hygiene in a family: the dog offers companionship, is a good subject of conversation between the members of the family, accustoms humans to the naturalness of biological processes, and also challenges responsibility (*Ment. Hyg.*, July). Emotional insecurity in children, as well as in adults, is sometimes revealed in an excessive craving and consumption of food; "I'm not hungry in my stomach. I'm hungry in my mouth," explained one seven-year-old neurotic boy, quoted by H. Bouch (*The Nerv. Child,* Apr.). H. B. Dunkel has constructed a 20-item "Inventory of Students' General Goals in Life" (*Educ. & Psych. Meas.*, Summer).

ABNORMAL

Centennial.—J. H. Hall has edited a volume in celebration of the hundredth anniversary of the American Psychiatric Association. The volume is called *One Hundred Years of American Psychiatry* (Columbia Univ.); its features include a description of military psychiatry from the Civil War to the Second World War; it compares the century of psychology with that of psychiatry; it reviews the legal and anthropological aspects of the subject. (See also the centennial issue of the *American Journal of Psychiatry.*)

General.—L. S. Selling has published a *Synopsis of Neuropsychiatry* (C. V. Mosby). The Sept.-Oct. number of *The Journal of Consulting Psychology* surveys the functions of psychologists in all kinds of hospitals. J. C. Whitehorn gives a helpful "guide to interviewing and clinical personality study" (*Arch. Neur. & Psychiat.*, Sept.).

Mental Hygiene.—D. B. Klein writes on *Mental Hygiene* (Holt) as the psychology of personal adjustment. An expanding program of group psychotherapy is described by F. Redl, S. R. Slavson, L. G. Lowrey, B. Gabriel, and H. Syz who show the manner in which insight may be instilled through group discussions by mothers who are rejectful of their children; the social poise which may be acquired by adolescent girls through guided club activities (*Amer. J. Orthopsychiat.*, Oct.). Viewing the future of mental hygiene, the greatest problem continues to be the fact that there is only one psychiatrist for every 45,000 persons, and most of these psychiatrists are in special hospitals and are, therefore, not distributed among the population (*Ment. Hyg.*, Jan.).

Special Conditions.—M. Hirschfeld reviews the types of *Sexual Anomalies* (Emerson). W. S. Taylor and M. F. Martin bring up to date the literature on "multiple personality" (*J. Abn. & Soc. Psych.*, July). J. S. Kasanin has made a diagnostic analysis of *Language and Thought in Schizophrenia* (Univ. of Calif.). Another testimonial that "alcoholics are sick people" is offered by R. V. Selinger (*J. Clin. Psychopath. & Psychother.*, July). A. Salter's book, *What is Hypnosis?* (R. R. Smith), reviews the mechanics of auto- and hetero-conditioning. The feeble-minded display a deceptive self-confidence which must be disregarded when committing the patients to institutions (*Amer. J. Ment. Defic.*, April).

SOCIAL

Morale.—R. Stagner found that in a college male population "a group of active radicals had reliably less satisfactory relationships with parents and lower personal morale (self-satisfaction)" than had the rest of the students (*J. Soc. Psych.*, Aug.). M. T. Henderson and B. Tinnes have adapted earlier social attitude scales into a "national morale scale" of 23 items; it can be easily administered (*ibid.* May). The meaning of "morale" is closely examined by W. A. Woods to define the exact elements on which a standardized measure of "industrial morale" may be based; as an example, Woods refers to W. L. Shirer's explanation of the high morale of the German army as owing to the realization by the soldiers that they were receiving the "best that the nation could afford" (*J. Appl. Psych.*, Aug.).

Public Opinion.—H. Cantril's book, *Gauging Public Opinion* (Princeton Univ.), indicates the current trends in the techniques of the leading survey polls. S. Menefee gives a detailed picture of the types of persons who best serve the purposes of a public opinion field staff (*Publ. Opin. Quart.*, Summer).

Conformity.—R. Chin's applications of the J-curve concept of social conformity (*e.g.* in punctuality) reveal a greater frequency of "prohibitive conformity" than of "prescriptive conformity" (*Arch. Psych.*, no. 289). In a cooperative enterprise directed by G. W. Allport the Chicago Y.M.C.A. has issued a pamphlet on the *A B C's of Scapegoating* which searches out the various forms of social rationalization which exist, *e.g.*, the prejudices and hysterias of wartime.

Race Psychology.—In an evaluation of the racial theories of R. E. Park (that prejudice is necessary for capitalistic exploitation) and R. Benedict (that antagonisms are based on moral issues), O. C. Cox suggests that the real problem of race has deeper historical roots; that the first race distinction arose between Europe and the Orient, and later, as bourgeoise groups arose in Europe and created many small imperialisms, the present-day multiplicity of social distinctions appeared (*J. Negro Educ.*, Fall). E. Brown proposes explanations for the Detroit race conflicts in his book, *Why Race Riots?* (Publ. Affairs). Comparing the "personal traits of Jewish and non-Jewish students," A. M. Shuey sets up the stereotypes of the Jewish personality and then checks these against the central tendencies of other groups; Shuey concludes that American Jewish students are "more liberal," "more gregarious," "slightly less stable emotionally," and more frequently "aggressive" than are other groups (*Arch. Psych.*, Mar.).

Crime.—R. M. Linder revives the use of hypnosis in psychoanalyzing juvenile delinquents: *Rebel Without Cause* (Grune & Stratton). W. C. Kvaraceus interprets juvenile delinquency as a form of aggression in protest against the frustrations incurred by low economic groups among which most delinquency cases arise (*J. Educ. Soc.*, Sept.). The relationship between psychoses and crime is reflected by I. Atkin's term "criminosis" (*J. Clin. Psychopath. and Psychother.*, July). W. Overholser lists the unsatisfactory home influences he has found in cases of juvenile delinquency (*J. Soc. Hyg.*, May). A. A. Sharp gives a resumé of 30 years of court psychiatry (*Psychiatr. Instit.* Chicago). H. Cason introduces a "Prisoner's Personality Scale" as an aid in determining appropriate candidates for parole (*J. Crim. Psychopath.*, Jan.).

INDUSTRIAL

Vocations.—Young Men and Machines (Dodd, Mead) by R. F. Yates, contains a psychological discussion of personnel problems. The aptitudes and interests needed in relation to occupational *Opportunities for Women* (Burgess) are described by

C. M. Brown and R. V. Arnesen. In the book, *Vocational Interests and Job Orientation* (Stanford Univ.), H. D. Carter shows the results of actual follow-up studies in relation to the Strong Vocational Interest Inventory.

PHILOSOPHY

By Elizabeth F. Flower and C. West Churchman
Department of Philosophy, University of Pennsylvania

GENERAL

The discussion of the bibliography in philosophy for 1944 falls easily into five main categories. They are Aesthetics, Ethics and Epistemology, Symbolic Logic, Philosophy of Science, and Advanced Theory of Statistics. The fields of philosophy of religion and social philosophy have been omitted, the former because there has been very little which is distinctively philosophical and the latter because it falls better under the treatment of Ethics and Epistemology. Regarding trends as a whole one might easily make this generalization: activity in social problems, social issues, and social method dominates the interest.

AESTHETICS

There are three books that bear mention in the field of Aesthetics. The first is by Bernard C. Heyl; *New Bearings in Aesthetics and Art Criticism, A Study in Semantics and Evaluation* (Yale Univ. Press, for Wellesley) which discusses two main problems; first, the linguistic responsibility for the unsatisfactory aesthetics of today, for example the ambiguous uses of such words as *art, beauty,* and *aesthetic truth;* and second, the theory of aesthetic value. Heyl develops an intuitional point of view: standards of value that arise from untrained minds are usually bad; standards of value derived on the other hand from cultivated and cultured experience are good and if there is conflict between standards of this latter type there is no argument excepting the appropriateness of them. *Why Exhibit Works of Art? Collected Essays on the Traditional or "Normal" View of Art* (London: Luzac and Co.), by Ananda K. Coomaraswamy, is a denunciation of modern theories of aesthetics with its interest on the sensuous nature of art, the autonomy of art, and the arbitrary distinctions between useful and fine art. Coomaraswamy's ideas are predominantly Hellenic, for he holds that the two main elements of art are the technical (creative) and the metaphysical (intuitions). No discussion of aesthetic bibliography would be complete without mention of Bertram Morris' *The Aesthetic Process* (North Western Univ.).

ETHICS

The discussion of Ethics falls under two categories—ethics proper and the historical movements of interest to the development of morality. Under the first should be mentioned an introduction to ethics, *The Quest for Moral Law* (Columbia Univ. Press) by Louise Saxe Eby. The author summarizes the opinions of great moral thinkers and then treats of some of the traditional norms of conduct. The bibliography of historical movements is extensive, especially in regard to the sources of American ideology. There is first of all *Thomas Paine. Representative Selections, with Introduction, Bibliography, and Notes* (American Writers Series, American Book Company) edited by Harry Hayden Clark.

Another figure in American thought is considered by Adrienne Koch in *The Philosophy of Thomas Jefferson* (Columbia Univ. Press), the Woodbridge Prize Essay which appears in the Columbia Studies in American Culture. It portrays Jefferson as a figure upon whom many currents of ideas, both philosophical and political, converge. The discussion of Jefferson's views of human nature, natural rights, revolution, and freedom are especially interesting.

Two more books, taken together concern Free Thought in America from the period after the War of 1812 until just before the First World War. They are *Popular Freethought in America, 1825-1850* (Studies in History, Economics and Public Law, No. 497, Columbia Univ. Press), by Albert Post, and *American Freethought, 1860-1914* (Studies in History, Economics and Public Law, No. 504, Columbia Univ. Press) by Sidney Warren. The earlier period is similar to the enlightenment in France, for the Americans were insisting on a respect for reason, for scientific knowledge, and for the potentialities of man; the latter period reflects the evolutionary hypothesis especially as presented by Darwin and Huxley.

There are three critiques of liberalism, although the word has a variety of meanings ranging from use as a characteristic of contemporary American institutions to a strictly legal interpretation. *The Legacy of the Liberal Spirit. Men and Movements in the Making of Modern Thought.* (Scribner), by Fred Gladstone Bratton, is a popular study of the leaders of liberal movements from their origin to the present. *The Decline of Liberalism as an Ideology: With Particular Reference to German Politics and Legal Thought* (Univ. of California publications in Political Science Vol. I, No. 1), by John H. Hallowell, traces the decline of liberal and legal theory in Germany from the 18th century when *integral liberalism* was the basis for freedom and equality, based on natural law, to the present National Socialism.

The Church and the Liberal Society. (Princeton Univ. Press, and London: Humphrey Milford, Oxford Univ. Press), by Emmet John Hughes, is a history of the growth of that way of life and a critique of it. By liberal society the author means the institutions and organizations of modern capitalism, and he holds that the Medieval world broke up as a result of individualism, nationalism, industrialism, and scientific technology and that these have brought poverty and war. He believes that the decline is owing to the loss of absolute ideals and beliefs as in Catholicism.

In *Man the Measure. A New Approach to History* (New York: Pantheon Books, Inc.), Erich Kahler gives an original interpretation of Western civilization in which he considers first the formation of the individual and then man's relation to the formation of the human collective. *Philosophy and the War* (Oklahoma City: Harlow Publishing Corporation), by Gustav E. Mueller, discusses the leading German National Socialist philosophies and shows their lack of consistent coherent principles. He treats Alfred Rosenberg's *Myth of the Twentieth Century,* Otto Dietrich's *The Philosophical Foundations of National Socialism,* Walter Gross' *Racial-Political Education,* Wilhelm Stapel's *The Christian Statesman,* and Franz Böhm's *Anti-cartesianism: German Philosophy in Resistance.*

SOCIAL ETHICS AND EPISTEMOLOGY

The following books could be classified under two categories—social ethics or epistemology. The central problem of the social sciences being the problem of adequate methodology, it has occupied the attention of the scientist and of the sociologist. *Methodology of the Social Sciences* (N. Y. and London: Oxford Univ. Press) by Felix Kaufmann; *Scientific Method and the Conditions of Social Intelligence* (St. John's, Newfoundland: Privately printed) by Helen Louise Whiteway; *Verifiability of Value* (Columbia Univ. Press) by Ray Lepley; and *The Uses of Reason* (Macmillan) by Arthur E. Murphy, discuss the problem of the uniqueness of social methodology. Kaufmann's book holds that methodology of the empirical sciences must be treated as distinct from the methods of deductive logic; the particular contribution of this book is the relationship between problems of method in general and those that arise in the normative sciences. *Scientific Method and the Conditions of Social Intelligence* reiterates the fact that social inquiries require a methodology that is distinct. In the *Verifiability of Value,* Lepley insists that normative propositions do not correspond so closely to facts as descriptive ones, but that nevertheless the same method of verification operates in matters of fact as in matters of value. Murphy shows that methods for achieving knowledge are available in matters of fact, in the resolution of moral questions, and in the evaluation of social ideals.

The Structure of Normative Ethics (Ann Arbor, Mich.: Lithoprinted by Edwards Brothers) by A. F. Nelson, belongs more strictly to the province of epistemology. It analyzes judgments of what is intrinsically good. He distinguishes the statement, *"O* is good," from a psychological judgment, for that proposition calls forth a response of respect. The feelings of approval are certainly data for psychology, but it does not follow that the judgment is, therefore, a psychological one. The problem of conflict in judgments of what is good is also raised in this book but not adequately answered. It is impossible to close the discussion of epistemology without reference to Marvin Farber's *The Foundation of Phenomenology. Edmund Husserl and the Quest for a Rigorous Science of Philosophy* (Harvard Univ. Press). This is a contribution to the increasing information on phenomenology and is ample proof that the movement must be considered seriously in the trends of American philosophy. Farber considers the earlier stages in the development of Husserl rather than the later, for it is largely a translation of *Logik Untersuchungen* and the *Philosophie der Arithmetik.*

SYMBOLIC LOGIC

P. Bernays continues his "System of Axiomatic Set Theory" (*Journal of Symoblic Logic,* 8), whose general treatment is too long to mention here; the article is concerned, among other things with the demonstration of how a general method of transfinite recursion can be established on the basis of a certain set of axioms which avoid the existential statements about cardinal numbers that lead to the Cantor hierarchy of powers. C. G. Hempel, in "A Purely Syntactical Definition of Confirmation" (*ibid.*), presents an interesting attempt to define the confirmation of an hypothesis in what might roughly be called formal terms; the approach is entirely empirical in that the author assumes that the scientist would start his process of confirmation from certain basic facts ("atoms" and "molecules"), and the rather complicated solution is at best only tentative. Hempel's approach offers an interesting contrast to the recent work in statistical theory of Pearson and Neyman, whose fundamental object is also to characterize "confirmation" within a certain domain of science. Hempel's approach is more general in the sense that it does not presuppose that the data are quantitative, but it is not clear just how it could be made to encompass the theory of tests of statistical hypothesis. T. Halpern's article, "A Set of Axioms for Logic," (*Journal of Symbolic Logic,* 9) sheds interesting light on the approach to logic developed by W. V. Quine in *Foundations of Formal Logic.* Carnap's work is extended in his *Formalism of Logic* (Harvard Univ. Press) to the development of the "semantics" of the propositional calculus.

PHILOSOPHY OF SCIENCE

G. Bergman's "Outline of an Empiricist Philosophy of Physics" (*Amer. Jour. Physics,* 11) gives a resumé of the philosophical attitude designated as logical positivism. This attitude is compared to that of pragmatism in V. G. Hinshaw's "Pragmatist Theory of Truth" (*Philosophy of Science,* 11). Hinshaw, despite his thesis that logical positivism and pragmatism are fundamentally different, really shows the positions to be surprisingly close. Neither Bergman nor Hinshaw sharply define the positivistic attitude towards scientific data (*e.g.,* are they "verifiable" in one of their senses?), and both seem to share a conception of the manner in which scientific theory is studied that departs widely from the exact procedures of statistical inference, outlined, for example, in M. Kendall's *Advanced Theory of Statistics* (Lippincott). H. R. Smart presents a clear formulation of what he calls the "logo-centric predicament" in "An Alleged Predicament of Logic" (*Jour. of Phil.* 41). The logical aspect of the problem can be generalized to any science, and the general problem may be stated as follows: in order to establish the validity of a given proposition it is necessary to make certain presuppositions; these can not themselves depend on the proposition in question, and yet their validity can be shown to rest on certain presuppositions; the dilemma is that we must either forsake the hope of answering questions (scepticism) or be led into circularity. It is doubtful whether any of the well known "systems of philosophy" give adequate answers to this problem.

PERIODICAL PUBLICATIONS

American Anthropologist
450 Ahnaip St., Menasha, Wis.
American Journal of Physical Anthropology
36th Street and Woodland Ave., Philadelphia.
American Journal of Psychiatry
9 Rockefeller Plaza, New York City.
American Journal of Psychology
Cornell University, Ithaca, N. Y.
American Journal of Sociology
5750 Ellis Ave., Chicago.
American Political Science Review
Northwestern University, Evanston, Ill.
American Scientist
Yale University, New Haven, Conn.
International Journal of Ethics
5750 Ellis Ave., Chicago.
Journal of Abnormal and Social Psychology
374 Broadway, Albany, N. Y.
Journal of Comparative Psychology
Mount Royal and Guilford Aves., Baltimore, Md.
Journal of Educational Psychology
10 East Centre St., Baltimore, Md.
Journal of Educational Sociology
32 Washington Place, New York City.
Journal of Experimental Psychology
1822 Sherman Ave., Evanston, Ill.
Journal of General Psychology
Commercial St., Provincetown, Mass.
Journal of Philosophy
515 West 116th Street, New York City.
Journal of Social Psychology
Commercial St., Provincetown, Mass.
Mental Hygiene
State Office Building, Albany, N. Y.
Philosophical Review
55 Fifth Ave., New York City.
Psychoanalytic Review
64 W. 56th St., New York City.
Psychological Review
1822 Sherman Ave., Evanston, Ill.
Science
Smithsonian Institution Building, Washington, D. C.
Scientific Monthly
Smithsonian Institution Building, Washington, D. C.
Social Research
66 West 12th Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.

AMERICAN ANTHROPOLOGICAL ASSOCIATION, American Museum of Natural History, New York City.

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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, Smithsonian Institution Building, Washington, D. C.

AMERICAN ASSOCIATION OF PHYSICAL ANTHROPOLOGISTS, American Museum of Natural History, New York City.

AMERICAN ECONOMIC ASSOCIATION, Northwest University, Evanston, Ill.

AMERICAN ETHNOLOGICAL SOCIETY, 100 Washington Sq. E., New York City.

AMERICAN GENETIC ASSN., 1108 Sixteenth St., N.W., Washington, D. C.

AMERICAN PHILOSOPHICAL SOCIETY, 104 S. 5th St., Philadelphia, Pa.

AMERICAN POLITICAL SCIENCE ASSN., 105 Harris Hall, Northwestern University, Evanston, Ill.

AMERICAN PSYCHIATRIC ASSN., 9 Rockefeller Plaza, New York City.

AMERICAN PSYCHOLOGICAL ASSN., University of Michigan, Ann Arbor.

AMERICAN PSYCHOPATHOLOGICAL ASSN., 520 Commonwealth Ave., Boston.

AMERICAN SOCIETY FOR PSYCHICAL RESEARCH, 40 E. 34th St., New York City.

AMERICAN SOCIOLOGICAL SOCIETY, U. S. Dept. of Agriculture, Washington, D. C.

NATIONAL COMMITTEE FOR MENTAL HYGIENE, 1790 Broadway, New York City.

NATIONAL INSTITUTE OF SOCIAL SCIENCES, 271 Madison Ave., New York City.

PSYCHOLOGICAL CORPORATION, 522 Fifth Ave., New York City.

SOCIETY FOR AMERICAN ARCHAEOLOGY, Illinois State Museum, Springfield.

PART SEVEN
THE HUMANITIES
DIVISION XXV
LITERATURE AND LANGUAGE

FICTION

By May Lamberton Becker
Readers' Guide, *New York Herald Tribune*

GENERAL

The distinguishing feature of the year's publishing in the United States, whether of fiction or general literature, was not the number or the nature of books brought out, or even the rapidity with which they disappeared from the counters, where, in the current phrase, "things go out of stock as soon as they are published and we have to wait for the binders." It was the permutations and combinations of publishers, magazines, and reprint houses in new alignments and mergers, and the large scale on which this took place. Formed for economic reasons, they will yet affect publication, in one way or another, enough to complicate the process of estimating actual preferences of the reading public. Another noteworthy feature of the year, not without effect on great numbers of readers, did not concern the civilian public: this was the effective large-scale organization of the Armed Services Editions—sometimes called Council Books, including well-chosen works of some distinction, and their distribution to soldiers, not only in vast numbers but in the smallest size and shape compatible with comfortable reading.

NOVELS OF OUTSTANDING POPULARITY

There was in this year's fiction output no single sweeping success, but in the succession of novels winning and for some time holding popular favor several earned the applause of critics as well. There was general agreement among the latter that in *The Razor's Edge,* Somerset Maugham was once more in the full stride of his admirable technique, whatever opinion they might express of the use to which it was put in this study of an expatriate aviator after the First World War. A. J. Cronin's *The Green Years,* a sympathetic presentation of growing up in Scotland, was generally called his best so far. *Green Dolphin Street,* by Elizabeth Goudge, though the winning of a huge prize as material for a moving picture undoubtedly sent it spinning to the top of best-seller lists, would in any case have been sure of popularity among lovers of light fiction who require distinction of style as well as serenity of spirit.

DISTINCTIVE WAR FICTION

The war, dominating the year's books as well as the year itself, brought about at least three novels that deserve to last and in all probability will be long remembered. *Valley of the Sky,* by Hobart Douglas Skidmore, is a brief, vivid, deeply penetrating study of a bomber crew in action over the Pacific, taken man by man. *The Least of These,* by Celia Dale, best novel so far to come from the London blitz, so infuses its tragedy with family feeling and resilient Cockney humor as to produce a record of human endurance that is also a work of art. *A Bell for Adano,* by John Richard Hersey, won well-deserved widespread success with its story of the efforts of an Italo-American AMG officer, presiding over a Sicilian village, to provide it with a bell to replace the 700-year old one melted by the Nazis; with humor and humanity it grasps the question of what America can and can not do in Europe.

CHARACTER NOVELS

The Sign Post, by E. Arnot Robertson, resolving a personal problem of two English lovers, sets the scene in contemporary Ireland and makes its psychology, so baffling to the Sassenach, clearer than most Celts have been able to make it. *The History of Rome Hanks,* by Joseph S. Pennell, roused interest chiefly by its development of what amounts to a new technique of fiction, by which a man discovers himself and the Civil War in the lives of his ancestors. Margery Sharp's *Cluny Brown* was blessed by thousands because this story of a young servant, who turned things upside down just by being herself, brought sparkling gayety into dark days. Another approach to the same general subject was made in Stella Gibbons' *The Bachelor* by the appearance in British society of an uninhibited bride from the Balkans.

WAR NOVELS

In the fiction of the fronts, attention centers on Ernest K. Gunn's *Island in the Sky,* a tensely dramatic story in which an airplane of the army transport command makes a forced landing on the uncharted wilderness of northern Canada; John Brophy's fine novel of Malta's ordeal, *Target Island;* Harry Peter Brown's *A Walk in the Sun,* a novel both grim and funny in which an American platoon landing on a beach in Italy loses its lieutenant and three successive sergeants but manages somehow to carry out its mission; Nevil Shute's sensitive *Pastoral,* which shows that love can go on in time of war and among the forces; and a realistic repercussion of the Hemingway era, Frederic Wakeman's *Shore Leave,* in which war-weary veterans of the South Pacific try to revive their spirits in San Francisco. A disillusioned worker in a German war factory makes the supreme gesture in Albert Maltz's *The Cross and the Arrow,* and France under German rule appears in Louis Bromfield's romance of a wealthy widow who came originally from the wrong side of the tracks, *What Became of Anna Bolton?*

PROBLEMS AND PSYCHOLOGY

The sharpest sensation made by a problem novel of the year was created —and lasted unusually long—by Lilian Smith's *Strange Fruit,* a Deep South tragedy of the love of an educated Negro girl for a white man. Another aspect of the same problem appeared in a strong strange novel with a Florida coast scene, Edith Pope's *Colcorton,* and race prejudice figures in Hodding Carter's Alabama story, *The Winds of Fear.* Mixed marriage is concerned in one of the year's most thoughtful novels, *Earth and High Heaven,* by Gwethalyn Graham, a moving story of the opposition of a conservative Montreal family to the marriage of its daughter to a young Jewish lawyer, clearly and justly presenting a challenge to prejudice. The problems in Howard Spring's *Hard Facts* confronted a troubled clergyman and a rising newspaper man in the 1880's in the Midlands; it is the first of a projected trilogy.

The novels involving pacifism, Granville Hicks's *Behold Trouble* and Vera Brittain's *Account Rendered,* suffered from heroes who might be martyrs of war spirit but gave the impression that they would be misfits in time of peace. *Wait for Mrs. Willard,* by Dorothy Langley, involved an attempted escape from married life; *The Rebellion of Leo McGuire,* by Clyde Brion Davis, a Robin Hood burglar at work and in prison. Upton Sinclair's Lanny Budd continued his career in *Presidential Agent,* fifth volume of his adventures.

In *Absent in the Spring,* by Mary Westmacott, an unusually searching psychological study, a woman who believed herself always right makes the terrifying discovery of how wrong she is; in another based on studies of character, *The Road Is Before Us,* by Agnes Boulton, a mixed company making an automobile trip from Pennsylvania to Florida react to its events according to their natures and experiences. The novel of the year that must be described as philosophical is Aldous Huxley's *Time Must Have a Stop;* with all its events and people its concern is with timeless verities.

REGIONAL NOVELS OF AMERICA

Among the more distinctive regional fiction of the United States the South was represented by Henry Bellamann's *Victoria Grandolet,* in which a New England girl marries into a Louisiana family; Erskine Caldwell's *Tragic Ground,* backwoodsmen in Georgia; the Mexican border country by Frank Goodwin's *The Magic of Limping John;* the Middle West by Angie Debo's *Prairie City,* fictionized history of an Oklahoma town, and *The Cabin,* by Marquis Childs, a sympathetic study of adolescence in the Iowa corn country; Montana by Mildred Walker's *Winter Wheat;* Palmyra, N. Y., of the 1820's in *Canal Town,* by Samuel Hopkins Adams; Texas by the short stories in George Sessions Perry's *Hackberry Cavalier;* the lumber industry around Puget Sound in *Timber Beast,* by Archie Binns; while Jean Stafford's *Boston Adventure* drew an unflattering picture of Boston society. *Stand on a Rainbow,* by Mary Innis, chronicled normal, happy family life that, though in a Canadian city, could also be found below Canada's boundary line.

OTHER REGIONAL FICTION

Literature with the spirit of other regions than ours included the distinguished novels of the Scottish highlands, Neil Gann's *Man Goes Alone* and *Young Art and Old Hector; Frossia,* a novel by Martha von Almedingen in the authentic tradition of the Russia from which she is an emigré; and another emigré's novel, *The Magic Year,* in which Joachim Maass returns in spirit to a childhood in pre-Nazi Hamburg.

HISTORICAL FICTION-AMERIÇAN

As usual, novels of America's past continued to appear in numbers sufficient to spread over much of its extent. Bruce Lancaster's *Trumpet to Arms* presented a stirring, authentic picture of local militia companies from the Colonies changing in the Revolution into the first American army that fought at Trenton and Princeton. Robert Gessner's *Treason* dealt with Benedict Arnold. *Lusty Wind for Caroline,* by Inglis Fletcher, is a romantic chronicle of the Colonial Carolinas, and Hervey Allen's *Bedford Village,* second in a series about life in the American Colonies, takes place in the mountains near what is now Pittsburgh. *Young 'Un,* by Herbert Best, shows young people growing up in the neighborhood of Lake Champlain in land-grant days after the Revolution.

The heroine of Irving Stone's biographical novel, *Immortal Wife,* is Jessie Benton Fremont. *The Bolinvars* by Marguerite Bayliss takes place during the early days of the Republic when western New Jersey was a hunter's paradise. *The Red Cock Crows,* by Frances Gaither, a slave insurrection and its suppression, shows mass psychology of fear; Henrietta Buckmaster's *Deep River* deals with slavery, and Howard Fast's thoughtful *Freedom Road* with the conflicts of Reconstruction, while Ernest Haycox's *Bugles in the Afternoon* is concerned with Custer. John Selby's *Elegant Journey* completes his three-volume history of the Trace family from 1839 to 1919 and takes them from a Maryland plantation to Wisconsin; Albert E. Idell takes the family met in *Centennial Summer* to the City of Churches and in *Bridge to Brooklyn* that famous span is opened.

The long procession of Jalna stories seems to have run its course, for Mazo de la Roche's *The Building of Jalna* goes back to provide a starting point of the series. Vardis Fisher's *The Gol-*

den Rooms has gone farthest back of the year's fiction, and in the successor to his *Darkness and the Deep* reconstructs life among the cavemen.

OTHER HISTORICAL FICTION

The tumultuous times of St. Francis of Assisi appear in a translation from the Polish Zofia Kossak's *Blessed Are the Meek,* noteworthy for its recreation of the Children's Crusade. Thomas Costain's *Ride With Me* is a romance of the Napoleonic wars. *Forever Amber,* by Kathleen Winsor, a synthetic reconstruction of Restoration England, achieved immense prepublication popularity but failed to win the respect of critical opinion. Coming nearer to the present, Philip Toynbee's *Barricades* showed an English schoolmaster drawn into the vortex of the Spanish Civil War; Martha Albrand's *Endure No Longer* brought to view the recurrent urge for world dominance as it took shape again in Germany between the two World Wars; *Cloudless May* by Storm Jameson, recorded earlier stages of German occupation of France, and a voice from the French underground, *Silence of the Sea,* by a writer known as Vercors, enriched literature with a brief exposition of passive but indomitable French resistance. Robert Graves, in *Wife to Mr. Milton* drew the fire of many students of literature by his determined attack on the author of *Paradise Lost.*

ESPIONAGE

Espionage fiction forsook the stereotyped formulas until lately in use, and approached genuine realization with Helen MacInnes' *While Still We Live,* a tale of occupied Poland, and Kay Boyle's powerful *Avalanche,* story of a spy network in Switzerland.

FANTASY

Fantasy flourished in many fields this fifth year of the hard facts of war. Lord Dunsany's *Guerrilla,* symbolic story of a country invaded, struck out the old fire of his earlier writing. Eric Linklater's *Wind on the Moon* made one of those flights from probability so refreshing alike to children and more intellectual older people. Maurice Sandoz's *Fantastic Memories* collaborated with the dyspeptic drawings of Dali. *God's Front Porch,* by Ketti Frings, described a half-way house to Heaven. Stephen Gilbert's *Landslide* uncovers the eggs of prehistoric monsters in western Ireland and brought back the jungle there. *Perelandra,* by C. S. Lewis, author of *The Screwtape Letters,* is a metaphysical fantasia involving an interplanetary trip. Charles Reginald Jackson's *Lost Weekend,* a sensation of the year, qualifies both as fantasy and as realism, for its phantasms are those of five days of a drunkard. *Now I Lay Me Down to Sleep,* by Ludwig Bemelmans, has as usual only slight connection with its title. There was a recrudescence of interest in tales of the weird, of which several collections from the past were published to meet the demand and a number of less successful attempts made to provide new material; it is interesting to trace this element in the half-forgotten fiction of Oliver Wendell Holmes, this year brought back in an omnibus volume of his psychological novels.

SHORT STORIES

The most distinguished volume of short stories for the year was Katherine Anne Porter's *The Leaning Tower,* an event in this field. In the posthumous *Haunted House,* by Virginia Woolf, her husband collected 18 short stories, sketches, and fragments, representing work over a considerable period as well as that projected. The title story of William Saroyan's *Dear Baby* and at least one other, rank among his best. The odd characters in Damon Runyon's *Runyon á la Carte* maintain their accustomed Broadway oddity; Louis Bromfield's nine stories of *The World We Live In* showed deftness in plot construction; the 40 in MacKinlay Kantor's *Author's Choice* showed why the author and various editors chose them. Humorous understanding of human ways marked those in Virginia Lincoln's *Grandmother and the Comet;* the sensitive tales in Frank O'Connor's *Crab-Apple Jelly* showed a high degree of talent, and Louise Field Cooper's in *Love and Admiration* were graceful, gay, and buoyant. Michael Seide's in *Common Thread* are all concerned with Jewish people in Brooklyn, especially during the depression. Christopher La Farge in *East by Southwest,* presents aspects of life among the armed forces in the Pacific area.

PRIZE AWARDS

The Pulitzer Prize awards, whose announcement this year aroused a high degree of public apathy, gave the prize for the best novel of 1943 to Martin Flavin's *Journey in the Dark,* which had previously won the Harper Prize. The Dodd, Mead-Red Book Prize went to *They Dare Not Go A-Hunting,* by Dorothea Cornwell, a story of a girl who was afraid of life and love.

POETRY

BY AUGUST DERLETH
AUTHOR AND EDITOR

ANTHOLOGIES

The best anthologized poetry of the year lies somewhere between *New Poems 1944,* edited by Oscar Williams (Howell, Soskin) on the Left, and *The Best Poems of 1943,* selected by Thomas Moult (Harcourt, Brace). Williams, trying almost painfully to exclude anything which might be termed conventional, admits to leaving out "the imitative, the literary, the fraudulent, the academic, the poets who write for reasons other than that the truth impels them." Moult is as conservative as Williams is modern, but much of the imitative, the literary, etc. is to be found in both anthologies. Williams', as the better of the two, blithely includes some poetry almost a decade old, and is divided into "American and British Verse" (Aiken, Auden, Barker, Berryman, etc.) and "Poems from the Armed Forces" (Eberhart, Fuller, Hayes, Jarrell, Shapiro, etc.). Williams' leaning is toward the studied, the cerebral, the stylized, as usual, but despite its manifest flaws, it is the year's best anthology of poetry.

Drink from the Rock (Catholic Poetry Society) is an anthology of poems from the magazine *Spirit,* with the accent on the spiritual. *New Directions 8,* edited by James Laughlin IV (New Directions) falls completely into the arms of the experimenters, but carries among its contributions interesting, stimulating, different poetry. *American Writing: 1943,* edited by Alan Swallow (Bruce Humphries), is a collection of prose and poetry selected from the little magazines; Swallow's poetic vision seems somewhat circumscribed by magazines with which he has been associated, but this year's anthology marks a definite improvement over last year's.

THE POETS OF THE YEAR

The New Directions Poets of the Year series was reduced in 1944 to six titles instead of the customary twelve. Of these, Conrad Aiken's *The Soldier,* a rich, imagistic historical examination of what it means to be a soldier, stands out. *The Hitleriad,* by A. M. Klein, is a verse-satire on Hitler and the Nazis, and though amusing and incisive at times, leaves much to be desired. Lloyd Mallam translates the *Selected Poems* of Rafael Alberti, the modern Spanish poet, and F. O. Matthiessen introduces the *Selected Poems* of Herman Melville. *Thirty Poems* represents the first published lyrics of a young Trappist, Thomas Merton, contemplative, introspective poems. The 1944 series is concluded with *A Little Anthology of Mexican Poets,* in Spanish and English. Some confusion has been brought about by the publication throughout the year of titles from last year's series, unavoidably delayed until 1944.

NEW VOLUMES BY FAMILIAR POETS

Karl Shapiro's *V-Letter and Other Poems* (Reynal & Hitchcock), his second book, widens his depth and range. "In the totality of striving and suffering we come to see the great configuration abstractly, with oneself at the center reduced in size but not in meaning, like a V-letter." His lines are sure, sharp, memorable. Marguerite Young's *Moderate Fable* (Reynal & Hitchcock) is likewise a second collection of sensitive, observing, individual, subtle poems, compactly and concisely written. *Preface to Maturity,* by Selwyn Schwartz (Decker) is a brilliant, electrifying third collection. Schwartz has escaped his more purple passages and manifested an evident desire to say something. *The Summer Landscape,* by Rolfe Humphries (Scribner's) is another volume of skilled, beautiful lyrical poetry. Marya Zaturenska's *The Golden Mirror* (Macmillan) is a fourth book of her intense, musical poems, posed and graceful, for the most part personal.

Marianne Moore's slim volume, *Nevertheless* (Macmillan) again demonstrates that she is able mistress of the written word in all its implications, both as fact and symbol. *The Sound I Listened For*, by Robert Francis (Macmillan) is a reprinting, with additions, of a 1943 brochure, a book of fine traditional poems by a master of phrase and idea. *The Shape of Memory,* by Winifred Welles (Holt) is the posthumous volume of a poet who was "history-haunted" and "ancestry-haunted"; a book of grave, imaginative verse. Muriel Rukeyser's *Beast in View* (Doubleday, Doran), is an uneven collection of poems in modern idioms, technically intricate, if basically traditional. *Passport to the War,* by Stanley Kunitz (Holt), is a culling of new and old poems, representing Kunitz at his best; it is a book of vigorous, affirmative, mature poems. *1 x 1,* by E. E. Cummings (Holt), is another melange of typographical high-jinks of no consequence, and some very fine, enduring poems by a poet who stands among the best American poets, if he could be persuaded to abandon his typographical adolescence.

Babette Deutsch's *Take Them, Stranger* (Holt), is a collection of poems written by a poet acutely conscious of the war. Her technique is traditional and sure, her poetic concepts sound, her poems polished. Joseph Joel Keith's *The Long Nights* (Murray & Gee), is a readable collection by an increasingly popular young poet. Keith is for the most part right-wing in ideology and treatment. Robert Nathan's *Morning in Iowa* (Knopf), is a short narrative poem intended to be symbolic of the joining of east and west in American frontier life, but too episodic to be successful. Theodore Morrison's *The Devious Way* (Viking), a long narrative poem, also falls short of success, but for a different reason; his theme is constancy, and its presentation drags, remains unconvincing. *A Wreath for the Sea*, by Robert Fitzgerald (New Directions), is a second collection by a poet whose initial volume impressed many critics because of its fresh classicism. This new collection, justifying strong belief in Fitzgerald's poetic power, is a memorable work.

Trial By Time, a third book by Thomas Hornsby Ferril (Harper), stresses the authentic American tradition; it is a collection of poems by a poet who is sharply aware of the looming American past in the same way that the late Stephen Vincent Benét was aware of his country's heritage, and who can write lines fully as memorable. Ferril stems from the tradition of Walt Whitman, but his voice is uniquely his own. Russell Davenport's *My Country* (Simon & Schuster), is a long narrative poem designed to define the world mission of America; it is uneven, but it has undeniable power. Jesse Stuart's second collection, *Album of Destiny*, (Dutton), is a long collection celebrating symbolically the seasons of man and earth; Stuart is traditional, bucolic, regional, and continues to justify our calling him "the American Burns." Haniel Long's *The Power Within Us* another edition of a very fine contemplation published years ago as *Interlinear to Cabeza de Vaca.*

The Compass Eye, by Harold Vinal (Comet Press) is a notable collection of vigorous, yet sensitive poems of land and sea on a variety of themes by the editor of *Voices* and the Secretary of the Poetry Society of America. *The Seven Sleepers and Other Poems,* by Mark Van Doren (Holt), is the first collection in seven years by a poet who has been called "the most representative of his nation and his times." Mature, penetrating, memorable poems, true to physical and spiritual experience, of rare breadth and depth. *Birth Is Farewell,* by Dilys Bennett Laing (Duell, Sloan & Pearce) is a second volume of beautiful, sustained lyrical verse. *Grain of Sand,* by Albert Edmund Trombly (Fine Editions), is a fourth book of interesting, but not always quite successful traditional poetry. W. H. Auden's *For the Time Being* (Random House), is a book of two long poetic statements, orthodox Auden, containing the title poem, subtitled "A Christmas Oratorio," and "The Sea and the Mirror: A Commentary on Shakespeare's *The Tempest.*"

Day of Deliverance, by William Rose Benét (Knopf), is a big book of forth-right poems about the war, and the problems of the people in war at home and at the fronts, uneven but vivid. *News of the Phoenix and Other Poems,* by A. J. M. Smith (Coward-McCann), is a first major collection by a Canadian poet with a wide following, substantial, if traditional verse. Horace Gregory's *The Shield of Achilles* (Harcourt, Brace), is a noteworthy group of "essays on beliefs in poetry," by a poet who is intuitive, informed, and intelligent in the broadest sense. *An Act of Life,* by Theodore Spencer (Harvard), is intelligent, somewhat Yeatsian verse by a poet fully aware of the responsibilities of being a poet. *The Walls Do Not Fall,* by H. D. (Oxford), is a new collection by a famous imagist, this time, poems of war. War poems also fill the pages of the English airman, John Pudney's *Flight Above Cloud* (Harper). Sister M. Thérèse's *Give Joan a Sword* (Macmillan) is chiefly of spiritual and/or religious experience, and religion is also the manifest subject of Mary Britton Miller's narrative poem, *The Crucifixion* (Scribner's).

Eloges and Other Poems, by St. John Perse (Norton), is a definitive collection of poetry by a French writer who has exerted an unmistakable influence on contemporary English verse. *Last Poems* of Anna Hempstead Branch (Farrar & Rinehart), are presented with a foreword by Ridgely Torrence. Walter Mehring's poems are translated from the German by S. A. DeWitt in *No Road Back* (Curl). James Pipes' *Ziba* (Univ. of Oklahoma Press) is a book of striking poems in the Negro folk tradition, particularly suited to choral reading, and very regional. Kenneth Rexroth's *The Phoenix and the Tortoise* (New Directions) is one of the year's most arresting collections; the poems take Rexroth at once from his previous objectivist background into a new, different, far more mature world, intensely personal, philosophic, and vividly realized.

FIRST VOLUMES

In *The Big Time* (Howell, Soskin), Alfred Hayes writes memorably and dramatically of cities—of slums and tenderloins and night clubs—a first book of poems which excites comparison with such books on similar themes and in parallel pattern as Edgar Lee Masters' *Spoon River Anthology* and Ben Hecht's *1001 Afternoons in Chicago.* William Justema's *Private Papers* (Duell, Sloan & Pearce), is a collection of poems of Justema's army year, from induction to his rating, with an introduction by Witter Bynner. Personal and strongly individual poems, many lines will stay with the reader. Charles Norman's *A Soldier's Diary* (Scribner's) is another, less effective book of service-life poems. *Love Letter from an Impossible Land,* by William Meredith (Yale) is this year's Yale Younger Poets book, a collection of poems divided between Meredith's undergraduate life and his existence as an airman, a book of much promise. *No Mortal Blow,* by Charles Glenn Wallis (Contemporary Poetry), is a posthumous collection of distinguished, if somewhat cerebral, poetry. Edith Lovejoy Pierce's *In This Our Day* (Harper), is a compilation of slight but sincere poems ranging in subject matter from war to religious experience.

SELECTIONS AND COLLECTIONS

W. H. Auden selects and edits with a provocative introduction *A Selection from the Poems of Alfred, Lord Tennyson* (Doubleday, Doran), a refreshing revaluation, a judicious, wise selection. Louis Untermeyer introduces the light verse of Ogden Nash in *The Ogden Nash Pocket Book* (Blakiston). Edgar Lee Masters writes the introduction for August Derleth's *Selected Poems* (Decker), the verse culled from the collections preceding *And You, Thoreau* (New Directions).

Robert Penn Warren's *Selected Poems 1927-1943* (Harcourt, Brace), is deeply contemplative verse in modern idiom, written from the Fugitive background, probably the year's most enduring selection. This cerebral poetry makes up no thick book, but its imagery, its incisive lines, its complex allusions, and its pointed symbols are not easily forgotten. *Five Young American Poets* (New Directions), contains the first collected work, all of high promise, of Jean Garrigue, Tennessee Williams, Eve Merriam, John Frederick Nims, Alejandro Carrion, with Garrigue and Nims outstanding among North American contributors, and Tennessee Williams (whose slim *Battle of Angels,* though announced for 1944, was postponed) likewise commanding respect and admiration.

VARIOUS VOLUMES

Eighteen Poems, by James Boyd (Scribner's); *Half the Music,* by Bianca Bradbury (Fine Editions); *The Stone Ants,* by Hubert Creekmore (Ward Ritchie); *Alexandrines of Angelus Silesius,* translated by Julia Bilger (Driftwind Press); *Statement,* by Don Gordon (Bruce Humphries); *Letter Home,* by George Abbe (Priv. Ptd.); *Delay Is the Song,* by Rosamond Haas (Dutton); *"Behold the Jew,"* by Ada Jackson; *Little Hills,* by Willis Boughton (Kaleidograph).

HISTORY

By Oscar Handlin
Department of History, Harvard University

GENERAL

The third year of war has been disappointing but not surprising for historical studies in the United States. Again, the needs of the battlefronts have edged out those of scholarship. The work published in the past 12 months shows a substantial decline over the preceding period, both in volume and in quality. Too many of the volumes that appeared in 1944 were ephemeral, called into being by the attractions of a popular boom market for books. The few notable works represent, by and large, projects long under way, and now completed. It will be some time, unfortunately, after the end of the war and the return to the universities before this trend is reversed.

OFFICIAL HISTORY PLANS

The only area of historical activity that has grown with the war is that of government service. The immense amount of paper records that accumulate in the great Federal agencies and the complexity of decisions and organization induced the Government to call upon the services of trained historians, archivists to classify and organize records, and analysts to trace the formulation and execution of policies. In addition, both the military forces and the civilian agencies already have staffs engaged in the preparation of official histories. It is difficult to estimate the precise numbers engaged in such work, but the general plans for the historiography of the United States in the Second World War are discussed in the *American Historical Review* (Vol. XLIX, pp. 243 ff.).

The attention of some scholars has already been drawn to the problem of writing the internal history of the war, of tracing the impact of the conflict upon American society. A committee has been organized under the auspices of the Social Science Research Council to coordinate these efforts. Their ambitious project, involving a long series of volumes dealing with every phase of the subject, is described by S. B. Clough, "Mars in the Clutches of Cleo," *New York History,* July, 1944.

PRIZES

The American Historical Association awarded its G. L. Beer Prize for a work in European international history to A. M. Cook's *British Enterprise* (in Nigeria) and its A. J. Beveridge Memorial Prize for a work in the history of the Western Hemisphere to H. W. Bradley's *American Frontier in Hawaii.* The Pulitzer Prize in American history went to Merle Curti for his *Growth of American Thought.*

GENERAL HISTORY

Hans Kohn's *Idea of Nationalism* (Macmillan) is the first volume of a study of the origins and development of nationalism in western society. This installment takes the subject to the French Revolution, and examines its intellectual manifestations with great learning. Karl Polanyi's *Great Transition* (Farrar & Rinehart) contains a provocative analysis in general terms of the development of western civilization in the last century with a rather pessimistic conclusion.

Two surveys of the history of the art of war may be found in *Ammunition: Its History, Development and Use, 1600 to 1943* (Morrow) by M. M. Johnson, Jr. and C. T. Haven, and in Lynn Montross's *War Through the Ages* (Harper).

THE UNITED STATES

The general tools in the field of American history have been enriched by the appearance of the authoritative and indispensable *Dictionary of American Biography* (Scribner) in a popular edition. Clifford L. and Elizabeth Lord have collaborated in a *Historical Atlas of the United States* (Holt), the most useful work of its kind thus far. The first volume of the *Album of American History,* covering the colonial period, and edited by J. T. Adams (Scribner), is less satisfactory.

HISTORY OF AMERICAN LIFE SERIES

Perhaps the most notable event of the year is the appearance of the last two volumes in the *History of American Life Series,* edited by A. M. Schlesinger and D. R. Fox (Macmillan). *The Completion of Independence* by J. A. Krout and D. R. Fox, and E. B. Greene's *Revolutionary Generation* bring to a close a project which has opened new vistas in the study of the American experience. Although the 12 volumes vary in individual quality, the common pattern which runs through them and the attention to hitherto neglected phases of our past have added much to the understanding and have drawn attention to problems which will be fruitful fields for research for many years.

INTELLECTUAL HISTORY

The best works in this field are in intellectual history. H. M. Jones' *Ideas in America* (Harvard) contains a series of essays on a broad range of subjects. A. F. Tyler's *Freedom's Ferment* (Minnesota) is an exhaustive investigation of the reform movements in the United States before the Civil War. Van Wyck Brooks' *World of Washington Irving* (Dutton) is the first volume chronologically of a general history of American literature. More specialized phases of American ideas form the subjects of Richard

Hofstadter's *Social Darwinism in American Thought* (Pennsylvania), and J. P. Cannon's *History of American Trotskyism* (Pioneer).

SOCIAL AND EDUCATIONAL

The only general work in social history is less satisfying; W. E. Woodward's *Way Our People Lived* (Dutton) is a popular history of social customs that has the virtue of readability and the vice of superficiality. C. W. Ramsdell's *Behind the Lines in the Southern Confederacy* (Louisiana) contains a collection of stimulating essays.

Education in America is dealt with by J. T. Adams in *Frontiers of American Culture* (Scribner), a study of adult education in the United States. Six lectures by C. L. Becker deal with the founders and the founding of *Cornell University* (Cornell). L. W. Dunlap's *American Historical Societies* (Bacon) deals with the activities of those bodies between 1790 and the Civil War. *Morale Education in the American Army* (International) is a brief survey by P. S. Foner.

MEDICAL HISTORY

Works on the history of medicine in the United States include W. F. Norwood's *Medical Education in the United States before the Civil War* (Pennsylvania), A. M. Chesney's *Johns Hopkins University School of Medicine* (Johns Hopkins), a study of those institutions from 1867 to 1893, and M. B. Greenbie's *Lincoln's Daughters of Mercy* (Putnam's), a description of the work of the United States Sanitary Commission during the Civil War.

ART AND OTHER FIELDS

Talbot Hamlin's *Greek Revival Architecture in America* (Oxford) is an excellent study, shedding light on many phases of the history of American taste and ideas before 1860. Works in other fields include T. E. Dabney's *One Hundred Great Years* (Louisiana State), a history of the *New Orleans Times-Picayune* from 1837 to 1940, John Hershey's *Racing in America* (Jockey Club), a history of the sport from 1665 to 1865, and J. B. Sellers' analysis of the *Prohibition Movement in Alabama* from 1702 to 1943 (North Carolina).

RELIGIOUS HISTORY

Three substantial volumes by Robert H. Lord, John E. Sexton, and Edward T. Harrington tell the impressive *History of the Archdiocese of Boston* in the various stages of its development from 1604 to 1943 (Sheed & Ward). D. F. Reilly's *School Controversy* (Catholic) discusses the Catholic position in the critical years, 1891-1893. *American Catholic Opinion in the Slavery Controversy* (Columbia) and B. J. Blied's *Austrian Aid to American Catholics 1830-1860* (Privately Printed) contribute further to the history of the Church in the United States.

W. W. Sweet examines the origin, growth, and decline of *Revivalism in America* (Scribner) in a survey volume. *The Road to Salem* by A. L. Fries (North Carolina) is a study of the Moravians on the Carolina frontier in 1753.

COLONIAL HISTORY

The Struggle for American Freedom, 1607-1801 (International) is a narrative of American political development by H. M. Morais with emphasis upon the class struggle. E. S. Morgan deals intelligently with the social history of the *Puritan Family* (Boston Public Library), Sidney Kobre analyzes the *Development of the Colonial Newspaper* (Colonial), M. P. Kuhn's *Mary and John* (Tuttle) tells the story of the settlement of Dorchester, and *Tennessee during the Revolutionary War* is described by W. C. Williams in other works in this field. Volume V of the *Public Records of the State of Connecticut* (State) covers the years 1783-84.

ECONOMIC HISTORY

The Growth of the American Economy (Prentice-Hall), is a survey with chapters written by various experts and edited by H. F. Williamson. D. E. Lilienthal's *TVA—Democracy on the March* is a careful study of the developments of the past decade. *Pills, Petticoats and Plows* by T. D. Clark (Bobbs-Merrill) examines the Southern country store as an economic and social institution between 1865 and 1915, and C. D. Lane's *American Paddle Steamboats* (Coward-McCann) treat generally other subjects in this field.

Two histories trace the development of individual American trade unions; Benjamin Stolberg's *Tailor's Progress* (Doubleday, Doran) is a well-written account of the International Ladies Garment Workers Union while J. Rubin and M. J. Obermeier have described the organization of the hotel workers in *Growth of a Union* (New York Hotel Trades Council).

BANKING AND INDUSTRY

Banking and currency problems received some attention in 1944. In *Talleyrand in America,* Hans Huth and W. J. Pugh have translated a series of documents throwing light on the career of the Frenchman as financial promoter in the United States, 1794-96 (U. S. Government Printing Office). Fritz Redlich deals with some phases of banking history in Essays in *American Economic History* (Stechert). The *Central Banking Functions of the United States Treasury 1789-1941* are described by E. R. Taus (Columbia), and G. L. McKay's *Early American Currency* (Marchbank) deals with the New England colonies.

Works on industry are less numerous than previously. G. S. Gibb does give a thorough account of Reed & Barton in *Whitesmiths of Taunton* (Harvard), but D. L. Cohen's *Combustion on Wheels* (Houghton Mifflin) is trivial, and J. A. Batchelor's *Economic History of the Indiana Oolitic Limestone Industry* (Indiana) is specialized and technical.

POLITICAL HISTORY

The most important work in the political history of the United States is the *Atlas of Congressional Roll Calls* (New York State Historical Association) edited by C. L. Lord. The first volume covering the period of the Continental Congress (1776-1789) was prepared by the Historical Records Survey of the Work Projects Administration, and contains a geographical analysis of the vote on every measure before the national legislature. Other general treatments include G. F. Milton's study of *The Use of Presidential Power 1789-1943* (Little, Brown) and a collection of caricatures for the period 1800-1900 edited by Allan Nevins and Frank Weitenkampf as *A Century of Political Cartoons* (Scribner).

More specialized publications include Dixon Wechter's *When Johnny Comes Marching Home* (Little, Brown), a slight study of the role of the returned veteran in American history, Francis Franklin's *Rise of the American Nation 1789-1824* (International), L. M. Ganaway's *New Mexico and the Sectional Controversy 1846-1861* (New Mexico), R. H. Luthin's *First Lincoln Campaign* (Harvard), Anna Rochester's *Populist Movement in the United States* (International), and *Battle Report* by Walter Karig and Wellborn Kelley (Farrar & Rinehart), a summary of the first months of naval warfare in the Second World War.

DIPLOMATIC HISTORY

R. W. Van Alstyne's *American Diplomacy in Action* (Stanford) is a general survey in terms of significant case histories. *The Road to Teheran* by F. R. Dulles (Princeton), contains an account of Russian-American relations between 1781 and 1943. J. H. Kemble's Panama Route (California) examines that problem in diplomacy for the period 1848-1869, while *Land Divided* by Gerstle Mack (Knopf) gives a broader treatment of the whole history of the Panama Canal. C. C. Tansill's *Canadian-American Relations, 1875-1911* (Yale) analyzes the issues between those neighbors in a significant period. F. H. Harrington's *God, Mammon and the Japanese* (Wisconsin) deals with Korean-American contacts between 1884 and 1905 in terms of the experience of the missionary. Horace Allen, and H. R. Rudin's *Armistice 1918* (Yale) and

Victory Without Peace by R. Burlingame and A. Stevens (Harcourt, Brace) both examine the close of the First World War, though from different points of view. C. J. F. Friedrich's *American Policy Toward Palestine* (American Council on Public Affairs) analyzes attitudes since 1914.

NATIONALITY GROUPS IN THE UNITED STATES

D. F. Bowers has edited a collection of essays on various phases of *Foreign Influence in American Life* (Princeton). Carey McWilliams' *Prejudice, Japanese-Americans Symbol of Racial Intolerance* (Little, Brown) examines in a penetrating fashion the deportation policy of 1941 against the background of the history of Japanese in the United States. C. T. Foreman's *Indians Abroad 1493-1938* (Oklahoma), S. L. Adams' *Long House of the Iroquois* (Fairview Farm), and *Norwegian-American Studies and Records* (Vol. XIV) edited by T. C. Blegen (Norwegian-American Historical Association) deal with phases of the history of other American peoples.

LOCAL HISTORY

Three volumes appeared in the American Lakes Series; Fred Landon's *Lake Huron,* G. L. Nute's *Lake Superior,* and M. M. Quaife's *Lake Michigan* are competent works. *Storms and Shipwrecks of New England* are the subjects of a volume by E. R. Snow (Yankee). R. G. Cleland's *Wilderness to Empire* (Knopf), and G. S. Dumke's *Book of the Eighties in Southern California* (Huntington Library) deal with the history of the Far West.

D. B. Hayes' *Chicago* (Messner) is a volume of the Cities of America Series. B. L. Lee's *Discontent in New York City 1861-1865* (Catholic), H. C. Syrett's *City of Brooklyn 1865-98* (Columbia), and W. C. DeWitt's *People's History of Kingston, Rondout and Vicinity* (Tuttle, Morehouse & Taylor) deal with aspects of New York local history.

J. B. Martin's *Call It North Country* (Knopf) tells the story of upper Michigan, and H. G. Pratt's *Hawaii: Off-Shore Territory* (Scribner) deals with the period 1898-1941.

THE OTHER AMERICAS

J. F. Rippy's *Latin-America and the Industrial Age* (Putnam) and W. R. Crawford's *Century of Latin American Thought* (Harvard) are broad accounts of considerable usefulness. A. A. Moll's *Aesculapius in Latin America* (Saunders) is a history of medicine in the southern countries, and P. M. Dunne's *Pioneer Jesuits in Northern Mexico* (California) is a detailed study of explorations and settlement. D. G. Creighton's *Dominion of the North* (Houghton Mifflin) is on the whole more scholarly and better rounded than A. M. Peck's *Pageant of Canadian History* (Longmans, Green).

BRITISH HISTORY

E. R. Bentley's *Century of Hero Worship* (Lippincott) is a stimulating analysis of a significant trend of ideas in the nineteenth century in terms of a selected group of thinkers.

Works in the history of England and of the British Empire deal largely with ideas this year. H. C. White's *Social Criticism in Popular Religious Literature of the Sixteenth Century* (Macmillan), and E. M. W. Tillyard's *Elizabethan World Picture* (Macmillan) are careful studies. H. G. Plum's *Restoration Puritanism* (North Carolina) deals with the period 1660-1714. Charles Morgan's *House of Macmillan* is a study of publishing activities from 1843 to 1943. The only work outside the field is Eric Williams' *Capitalism and Slavery* (North Carolina), a discussion of the impact of the industrial revolution upon the British West Indies.

FRANCE

France at the end of the Seven Years War forms the subject of P. H. Beik's *Judgment of the Old Regime* (Columbia). In *France Reviews Its Revolutionary Origins* (Columbia), Paul Farmer describes later conceptions of the Revolution. *Three Napoleonic Battles* (North Carolina) contains a detailed analysis by H. T. Parker. T. F. Power, Jr. discusses

Jules Ferry and the Renaissance of French Imperialism (Kings Crown) in the early years of the Third Republic, and E. O. Golob's *Meline Tariff* weighs the relationship of French agriculture and nationalist economic policy.

GERMANY

G. N. Shuster and Arnold Bergstrasser have written an excellent survey, *Germany, a Short History* (Norton), temperate in tone and scholarly in deail. More specialized topics are treated in Herbert Rosinski's *German Army* (*Infantry Journal*), *Church and State in Silesia under Frederick II* by Franciscus Hanua (Catholic), L. W. Muncy's *Junkers in the Prussian Administration under Wilhelm II* (Brown), and Alexander Gerschenkron's *Bread and Democracy in Germany* (California), a study of agricultural policy. Konrad Heiden's *Der Fuehrer* (Houghton Mifflin) is a history of the rise of the National Socialist Party.

OTHER COUNTRIES IN WESTERN EUROPE

A. J. Barnouw's *Making of Modern Holland* (Norton), Hendrik Riemens' *Netherlands Story of a Free People* (Duell, Sloan & Pearce), and *Netherlands,* a series of essays edited by Bartholomew Landheer, all contain general surveys of Dutch history. J. B. Trend's *Civilization in Spain* (Oxford) and N. B. Adams' *Heritage of Spain* (Holt) are short histories. Elaine Sanceau gives an account of Portuguese exploration in *Land of Prester John* (Knopf). Cecil Sprigge's *Development of Modern Italy* (Yale) is an account of the last century.

EASTERN EUROPE

Russia, Then and Always by N. V. and Fillmore Hyde (Coward-McCann) and Albert Parry's *Russian Cavalcade* (Ives Washburn) are brief surveys. Daniel Henderson's *From the Volga to the Yukon* (Hastings House) and R. H. Fisher's *Russian Fur Trade* (California) are accounts of expansion since the sixteenth century. More specialized aspects of Russian history are the subjects of L. I. Strakhovskey's *Intervention at Archangel* (Princeton), G. R. Treviranus' *Revolution in Russia* (Harper), and Harry Dorosh's *Russian Constitutionalism* (Exposition).

Waclaw Lednicki has written on *Life and Culture of Poland* (Roy) as reflected in Polish literature. Various phases of Balkan history are discussed in a scholarly fashion in L. S. Stavrianos' *Balkan Federation* (Smith), J. A. Levandis' *Greek Foreign Debt and the Great Powers* (Columbia), C. E. Black's *Establishment of Constitutional Government in Bulgaria* (Princeton), and Antonin Basch's *Danube Basin and the German Economic Sphere* (Columbia).

AFRICA AND ASIA

K. S. Latourette continues his history of the expansion of Christianity with a sixth volume, *Great Century in Northern Africa and Asia: 1800-1914 A.D.* (Harper). Chester Tobin's *Turkey: Key to the East* (Farrar & Rinehart) and Ernest Jackh's *Rising Crescent: Turkey* (Farrar & Rinehart) are general surveys. M. A. Faris has edited a series of essays on *The Arab Heritage* (Princeton). R. T. Oliver's *Korea, Forgotten Nation* (American Council on Public Affairs), L. C. Goodrich's *Short History of the Chinese People* (Harper), and O. E. Lattimore's *Making of Modern China* (Norton) deal with the Far East.

ANCIENT AND MEDIEVAL HISTORY

The outstanding work in this field is the third volume of Werner Jaeger's *Paideia* (Oxford), a superb analysis of the ideals of Greek culture. W. C. Greene's *Moira* (Harvard) analyzes the concepts of fate, good, and evil in Greek thought. Raphael Taubenschlag's *Law of Greco-Roman Egypt in the Light of the Papyri, 332 B.C.—640 A.D.* (Herald Square) is a scholarly investigation of a technical subject. C. N. Cochrane investigates the relationship of *Christianity and Classical Culture* (Oxford) from Augustus to Augustine. Will Durant's *Caesar and Christ* (Simon and Schuster) is an elaborate but superficial general work.

HISTORY OF THE JEWS

Ismar Elbogen's *Century of Jewish Life* (Jewish Publication Society) is a general history from 1848 to the present. Volume I of Louis Greenberg's *Jews in Russia* (Yale) and Isaac Levitas' *Jewish Community in Russia 1772-1844* (Columbia) deal with the Jews under the Czars. Joseph Kissman's *Studies in the History of the Rumanian Jews* (Yiddish Scientific Institute), Israel Cohen's *Vilna* (Jewish Publication Society), and Solomon Liptzin's *Germany's Step Children* (Jewish Publication Society) deal with the history of the Jews in other countries.

WAR BOOKS

By Helen F. Conover

Division of Bibliography, Library of Congress

GENERAL

The crowded shelves of war books in 1944 included correspondents' stories, official and unofficial surveys of campaigns, books on every branch of the services, personal narratives, plans for peace. Most of them were hastily written, in a vain attempt to keep pace with the headlines over which we exult or agonize. A few reflect good writing. Many were necessarily short, printed in conformity with regulations for saving paper. Free use was made of the excellent photographs taken by official photographers.

ATLASES

There are two conspicuous war atlases, *The War in Maps* (*The New York Times*), with text by E. F. Brown and maps by Emil Herlin, and the semi-official *War Atlas for Americans* (Simon & Schuster) prepared with the assistance of the Office of War Information for the Council on Books in Wartime. The latter contains maps drawn on orthographic projection, with points of projection varying according to the strategic problems depicted, all in tones of blue and white with dark shadows to mark lines of advance. The text provides a concise summary of the progress of the war to early 1944.

NAVAL AND MILITARY TEXTS

The British Jane's *Fighting Ships* is reinforced by two American surveys; Critchell Rimington's *Fighting Fleets* (Dodd, Mead) and *Warships of the World* (Cornell), edited by Roger Kafka and Roy L. Pepperburg. *Great Soldiers of World War II*, by Major H. A. DeWeerd (Norton), reprinted in part from *Yale Review* and *Infantry Journal,* portrays selected French, English, German (Rommel and the "intuitive" Hitler), Russian, American, and Chinese generals. Edgar McInnis publishes the fourth volume of his useful covering history, *The War: Fourth Year* (Oxford).

AMERICAN FORCES

Our Army at War (Harper) is a covering picture of American campaigns as "shot" by army photographers, with introduction by General George C. Marshall. The Army Air Forces issue an official guide, *AAF* (Simon & Schuster), "a directory, almanac and chronicle of achievement." The U. S. Office of Naval Operations sponsors *Our Flying Navy* (Macmillan), with foreword by Secretary of Navy Forrestal, a book of fine photographs and reproductions in color of paintings by Navy artists. *The Second Navy Reader* (Bobbs-Merrill) is edited by W. H. Fetridge, supplementing the 1943 *Navy Reader* in another anthology of articles designed to build pride in naval tradition.

A comparable volume for the air corps is edited by Maude Owens Walters, *Combat in the Air* (Appleton-Century), a selection of the best stories by flyers and reporters of air action on all fronts. The men who service the planes are extolled by Capt. Al Friendly in *The Guys on the Ground* (Eagle Books), and the complete record of Marine Corps aviation, *Flying Leathernecks* (Doubleday, Doran) is written by Richard G. Hubler and John A. DeChant.

The naval historian Rex Ingraham presents *First Fleet* (Bobbs-Merrill), the story of the U. S. Coast Guard at war, and William B. Mellor, in *Sank Same* (Howell, Goskin), describes the duties and services of the Civil Air Patrol and the Coast Guard Auxiliary which have aided materially in subduing the submarine menace off our coasts. *Nor Death Dismay,* by Samuel Duff McCoy (Macmillan) gives a noble account of the merchant marine.

The supposedly non-combatant branches have their sagas. *Bulldozers Come First* (McGraw-Hill), is the story of war construction around the world by correspondents from the *Engineering News-Record.* On the Seabees are William Bradford Huie's *Can Do* (Dutton), and *We Build, We Fight* (Harper), by Hugh B. Cave. Capt. Edgar J. Wynn, a ferry pilot, describes the transatlantic routine of his service in *Bombers Across* (Dutton). Animal auxiliaries are described by Clayton G. Going in *Dogs at War* (Macmillan).

ALLIED FORCES AND ACTIVITIES

Two books depict the tragic struggle against the invader in southeastern Europe—Leigh White's *Long Balkan Night* (Scribner), and *Balkan Journal* (Norton), by Laird Archer, former director of the Near East Foundation, who saw the defeat of Greece. *The Story of a Secret State* (Houghton Mifflin), by an escaped officer who writes under the pseudonym of Jan Karski, reveals in horrible detail the heroic course of the Polish underground. The continuing resistance of the Polish armies in exile is recorded by Xavier Pruszynski in *Poland Fights Back: From Westerplatte to Monte Cassino* (Roy).

Theodore Draper analyzes the fall of France from the military angle in *Six Weeks of War* (Viking), and there are two notable translations, both published by Doubleday, Jean Malaquais' *War Diary,* and *The Gravediggers of France,* by the famous Parisian journalist, Pertinax (André Géraud). Hassoldt Davis, former globe-trotter, was with the Fighting French in Africa, and describes Leclerc's epic trek across the Sahara from Lake Tchad, and subsequent battles, in *Half Past When* (Lippincott).

Among much writing on Russia, two works are in the war book category, Alexander Werth's *Leningrad* (Knopf), recounting the British correspondent's visit to the unconquerable city under siege, and Walter Boardman Kerr's *Russian Army* (Knopf), covering the Moscow and Stalingrad campaigns and the home front. Two of our best foreign observers write understandingly of the involved problems of Asia, both stressing the role of the Soviet—Leland Stowe in *They Shall Not Sleep* (Knopf), and the veteran correspondent in China, Edgar Snow, in *People on Our Side* (Random House), an important book on Russia, China, and India at war. Ilona Ralf Sues, in *Shark's Fins and Millet* (Little, Brown), a courageous book about the valiant Chinese, includes a revealing portrait of Mme. Chiang Kai-shek for whom the author had served as publicity writer.

ENEMY THEMES

Two Swedish journalists, recently expelled from Berlin, study events and repercussions on German home morale in books more valuable for first-hand observations than for conclusions—Arvid Fredborg in *Behind the Steel Wall* (Viking) and Gunnar T. Pihl, in *Germany: The Last Phase* (Knopf). Sigrid Schultz, an American-Scandinavian correspondent for over 20 years in Berlin, draws on her deep knowledge of German psychology to plead for the complete extirpation of the Pan-German ideology in *Germany Will Try It Again* (Reynal & Hitchcock). Rafaël Lemkin in *Axis Rule in Occupied Europe* (Carnegie), analyzes in detail the laws and government of Nazi occupation, particularly the policy of destruction of nations biologically and culturally which he terms "genocide."

Joseph C. Grew, former Ambassador to Japan, follows his 1943 *Report from Tokyo* with another warning volume based on diaries and papers, *Ten Years in Japan* (Simon & Schuster). *The Jap Soldier,* by Capt. Arthur Goodfriend, is issued in a 25-cent pocket edition by *Infantry Journal* and Penguin Books. It presents a just appraisal of our adversaries which serves to offset the "little yellow monkeys" propaganda.

CAMPAIGN EXPERIENCES

The personal narratives of correspondents and participants on all fronts are seemingly inexhaustible. Foremost in popularity in 1944 as in 1943 is Ernie Pyle, with his *Brave Men* (Holt), expanded from his day-by-day columns from the Italian and French fronts which, more than any other, have brought to the American people at home the sense of reality of war. Quentin Reynolds' *The Curtain Rises* (Random House) covers the reporter's assignment to the Near East, Tunisia, and the Sicilian campaign, and records his "delirious" pride on coming from the Russian troops and Montgomery's Eighth, to the unseasoned American boys. The last columns and broadcasts of the late Raymond Clapper are collected by his wife in *Watching the World* (McGraw-Hill). Abbott J. Liebling's *Road Back to Paris* (Doubleday, Doran) collects articles from the *New Yorker,* drawing interesting sideline pictures of France before the fall, England after Dunkerque, the arrival of the Americans, and Tunisia under the Allies. Two books are by entertainers who have visited many encampments through two hemispheres —Joe E. Brown's *Your Kids & Mine* (Doubleday, Doran), and Bob Hope's *I Never Left Home* (Simon & Schuster). A group of *Letters Home* (Little, Brown), arranged by Mina Curtiss, come from men and women on all fronts, reflecting poignantly the emotions caused by separation.

MEDITERRANEAN THEATRE

The end of the North African campaign and the invasion of Sicily are reported by John Gunther in *D Day* (Harper). The same scene is interpreted in black and white and color sketches by the artist George Biddle, in his *War Drawings* (Duell, Sloan). Simon & Schuster brought out a striking book of photographs by Margaret Bourke-White, *They Called It Purple Heart Valley,* "a combat chronicle of the war in Italy." Two AAF officers, Major Richard Thruelson and Lieutenant Elliott Arnold, tell the air epic from El Alamein to Rome in *Mediterranean Sweep* (Duell, Sloan). Colonel Edson D. Raff, in *We Jumped to Fight* (Eagle Books) writes of the first American parachute battalion in Tunisia. Richard Tregaskis (*Guadalcanal Diary,* 1943) gives personal impressions of the landings in Sicily and Italy in his *Invasion Diary* (Random House).

WESTERN EUROPE

The invasion of France is described in some of the best war writing of the year. Notable are Charles C. Wertenbaker's *Invasion* (Appleton-Century), Richard L. Tobin's *Invasion Journal* (Dutton), and the former dramatic critic Lieut. John Mason Brown's *Many A Watchful Night* (Whittlesey House). William Walter Chaplin's *Fifty-two Days* (Bobbs-Merrill) relates the battle of Normandy as seen by a radio reporter. The Eighth American Air Force in England and on missions over the continent is described by Captain John R. (Tex) McCrary, with the collaboration of D. E. Scherman, in *First of the Many* (Simon & Schuster).

IN THE NORTH

An exciting book is *War Below Zero* (Houghton, Mifflin), the battle for Greenland described by the Arctic flyer and leader of the expedition, Col. Bernt Balchen, with two authors, Corey Ford and Oliver La Farge, as collaborators. The Aleutian campaign and Alaska at war are covered by William Gilman in *Our Hidden Front* (Reynal & Hitchcock).

PACIFIC THEATRE

The U. S. Marine Corps receives full measure of glory in Robert Sherrod's *Tarawa: The Story of A Battle* (Duell, Sloan), and Capt. Herbert L. Merillat's *The Island* (Houghton Mifflin), a history of the First Division on Guadalcanal. The Solomons campaign and Tarawa are described by a chaplain with our toughest fighting men in *The Leathernecks Come Through* (Revell), by Warren W. Willard. Robert Lee Scott, *God Is My Co-Pilot*, 1943, speaks for the airmen and particularly for the P-40 planes in the Pacific with *Damned To Glory* (Scribner). Two 25-cent *Infantry Journal* and Penguin Books are Lieut. Co. S. L. A. Marshall's *Island Victory,* the story of the battle of Kwajalein in the Marshall Islands, and *The Capture of Attu,* taken from reports of individual combatants and sponsored by the War Department. Official records and first-hand observations of the entire course of the war in the Pacific are combined by Foster Hailey, of *The New York Times,* in his *Pacific Battle Line* (Macmillan).

A semi-official volume on Pacific naval operations is prepared by Com. Walter Karig and Lieut. Welbourn Kelly, *Battle Report, Pearl Harbor to Coral Sea* (Farrar & Rinehart, for Council on Books in Wartime). Lieut. Max Miller's *Daybreak for Our Carrier* (Whittlesey House), a narrative of naval routine, uses official photographs by Lieut. C. E. Kerlee. Two conspicuous pictorial works are the naval artist Griffith Baily Coale's new book, *Victory at Midway* (Farrar & Rinehart), and *Of Men and Battle* (Howell, Soskin), an album of sketches of the attack on Arawe, New Britain, by David Fredenthal, with text by Richard Wilcox.

Individual ships are subjects; the aircraft carrier *Princess* in Com. Kenneth McCracken's *Baby Flat-Top* (Farrar & Rinehart), the *Astoria* and her last battle in Joe J. Custer's *Through the Perilous Night* (Macmillan), and the *Enterprise,* the only first-line carrier to survive the first year of war, in Eugene Burns' *Then There Was One* (Harcourt, Brace). Tragic narratives of the "death march" from Bataan and Jap prison camps are told by Walter Dyess, in *Dyess Story* (Putnam), and Melvin H. McCoy and S. M. Mellnik, *Ten Escape from Tojo* (Farrar & Rinehart). Dr. Albert Q. Maisel in *The Wounded Get Back* (Harcourt, Brace) gives an account of the medical work of the Navy in the South Pacific.

HOME FRONT

John Dos Passos in *State of the Nation* (Houghton Mifflin) reviews in impressionist style widespread aspects of the nation at war, stressing labor-management relations. Agnes E. Meyer gives a sociologist's account of war conditions, some good, many bad, in *Journey through Chaos* (Harcourt, Brace). Barbara Van Doren Klaw in *Camp Follower* (Random House), describes realistically the difficulties besetting a soldier's wife who tries to be near her husband in a hostile small town. Walter Johnson's *Battle against Isolation* (U. of Chicago Press) studies the organizations that have fought for the American swing toward internationalism. Secretary of State, Edward R. Stettinius, Jr., outlines origins, development and operations, including reverse lend-lease, in *Lend-Lease, Weapon for Victory* (Macmillan).

VICTORY AND AFTER

The long list of thoughtful and stimulating books on problems and plans of world peace and organization includes Harold Callender's *Preface to Peace* (Knopf), Mortimer J. Adler's *How to Think about War and Peace* (Simon & Schuster), *And American Peace,* by Neil MacNeil (Scribner), André Visson's *Coming Struggle for Peace* (Viking), Major George Fielding Eliot's *Hour of Triumph* (Reynal & Hitchcock), and Walter Lippmann's *U. S. War Aims*

(Little, Brown). Highly useful as a reference book for students and debate groups is the American Council on Public Affairs (Washington), a compilation of documentary sources, *United Nations Agreements,* edited by M. B. Schnapper.

George Creel advocates stern retribution in his *War Criminals and Punishment* (McBride). Ferdinand A. Hermens in *The Tyrants' War and the People's Peace* (U. of Chicago Press) and Paul Hagen in *Germany After Hitler* (Farrar & Rinehart), argue for the possibility of building a peaceful German democracy from within. The criminologist, Dr. Sheldon Glueck, studies similar problems of the past and their present application in *War Criminals, Their Prosecution and Punishment* (Knopf). Harold G. Moulton and Louis Marlio, of the Brookings Institution (Washington), survey the economic picture in *The Control of Germany and Japan.* Finally, the former Under Secretary of State, Sumner Welles, makes two valuable contributions—*Time for Decision* (Harper), reviews world diplomacy from 1937, and offers a concrete plan for world organization superimposed on regional federations; *An Intelligent American's Guide to the Peace* (Simon & Schuster) evaluates the effects of the war and the position in the strategy of the future, country by country, throughout the world.

BIOGRAPHY

By Malcolm Oakman Young
Reference Librarian, Princeton University

GENERAL

As the biographies published in 1944 are surveyed, it is found that numerically the output declined only in proportion with the total number of books published. In the year through November, 6,319 titles appeared while for the same period in 1943, 7,690 had been issued. The figures in the biographical field are 389 for 1944 and 442 for 1943. There seems little doubt that there were more notable or near notable works in 1944 than in the previous year, and that the committee whose duty it will be to choose the outstanding one will have more candidates. There were few adverse comments on the selection of the 1943 Pulitzer Prize in biography—Fred Carleton Mabee's *The American Leonardo —A Life of Samuel F. B. Morse.* A continuing popular type of biography is the informal, usually light and amusing, biography of which several examples will be found in this list.

COLLECTIVE WORKS

To the gratification of all, there appeared the first supplementary volume to the *Dictionary of National Biography.* While the notables included are mostly those who died in the years 1930-35, there are also included some overlooked for one reason or another from the original work. Another standard reference book, *American Men of Science,* appeared in its 7th edition, edited by Jaques Cattell and published by The Science Press. A readable book is Bernard Jaffe's *Men of Science in America* (Simon and Schuster) including men of the past and present. The third and concluding volume of *Lee's Lieutenants* (Scribner), by Douglas Southall Freeman, covers the period and men in the Gettysburg-to-Appomattox period. Rembert W. Patrick has written of 14 men in his *Jefferson Davis and his Cabinet* (Louisiana State Univ. Press). There are two volumes dealing with negro subjects: Edwin R. Embree's *Thirteen Against the Odds* (Viking) and, especially written for young people, Philip H. Lotz' *Rising Above Color* (Revell). David Ewen, standard writer in the field, has now issued *Men of Popular Music* (Ziff-Davis). *Famous American Composers* (Crowell) is a simply written book by

Grace Overmyer. A specialized compilation is edited by Orrin E. Dunlap Jr., *Radio's 100 Men of Science* (Harper). For young people is Stephen H. Fritchman's *Men of Liberty* (Beacon Press), including among others, Jefferson, Emerson, Parker, Channing. *They Work for Tomorrow* (Revell) is a collection of brief sketches of Wallace, Pearl Buck, Cordell Hull, the late Wendell Willkie, and others. An authority, Harvey A. DeWeerd, has written the valuable *Great Soldiers of World War II* (Norton). *The Columnists* (Howell) by Charles Fisher is an entertaining portrayal of the men who are so influential at present. A collection of profiles from the *New Yorker* is *Take Them Up Tenderly* (Knopf) by Margaret Case Harriman.

POLITICAL LEADERS AND HISTORIC FIGURES

Three books are added to the Lincoln bibliography: *The Photographs of Abraham Lincoln* (Harcourt) by Frederick H. Meserve, with an essay by Carl Sandburg; a volume of letters from contemporaries, *Concerning Mr. Lincoln* (Abraham Lincoln Asso.); a life of Lincoln's school teacher *Mentor Graham* (Univ. of Chicago Press) by K. Duncan and D. I. Nickols. Further illumination on Wilson is found in the varied books: Thomas A. Bailey, *Woodrow Wilson and the Lost Peace* (Macmillan); William Diamond, *The Economic Thought of Woodrow Wilson* (Johns Hopkins Univ. Press); Margaret Axson Elliott, *My Aunt Louisa and Woodrow Wilson* (Univ. of North Carolina Press); Gerald Johnson, *Woodrow Wilson* (Harper), consisting of pictures and some text. An interpretation of Franklin D. Roosevelt by an Englishman, Compton Mackenzie (Dutton), must be included. Other books on the President are Frank Kingdon's *"That Man in the White House"* (Arco Pub. Co.); Noel F. Busch, *What Manner of Man?* (Harper).

With the subtitle *A Tercentenary Estimate* (Univ. of Pennsylvania Press) William W. Comfort presents William Penn. A series of talks covering every aspect of the subject is compiled by The Franklin Institute and entitled *Meet Dr. Franklin.* Two Pennsylvania Revolutionary leaders are found in *Richard Peters* by Hubertis Cummings, and in *Alexander James Dallas* (both, Univ. of Pennsylvania Press) by Raymond Walters, Jr. *John C. Calhoun, Nationalist* (Bobbs-Merrill) is by Charles M. Wiltse. *George T. Fitzhugh, Propagandist of the Old South* (Louisiana Univ. Press), by Harvey Wish, sets forth the Virginia lawyer and proslavery crusader, while Alexander A. Lawrence presents in *James Moore Wayne* (Univ. of North Carolina Press) a southern Unionist.

An outstanding book is Catherine D. Bowen's *Yankee from Olympus* (Little), a vivid portrait of Justice Oliver Wendell Holmes. *Pitchfork Ben Tillman* (Louisiana State Univ. Press) is by Francis B. Simkins. *McCarthy of Wisconsin* (Columbia) by Edward A. Fitzpatrick deals with a figure influential in Wisconsin politics. A provocative and timely work is the life of Henry Cabot Lodge, *The Gentleman from Massachusetts* (Little, Brown) by Karl Schriftgiesser. Josephus Daniels continues his memoirs in *The Wilson Era* (Univ. of North Carolina Press). Senator George Wharton Pepper's autobiography is aptly called *Philadelphia Lawyer* (Lippincott). Mayor for a long time, Carter Harrison's autobiography is titled *Growing Up With Chicago* (Seymour). *Young Willkie* (Harcourt, Brace) by Alden Hatch sketches the earlier years of the later political figure. *Bernard Baruch: Park Bench Statesman* (McGraw-Hill) is by Carter Field. Two campaign volumes are Stanley Walker's *Dewey: An American of this Century* (Whittlesey) and *Bricker of Ohio* (Putnam) by Karl B. Pauly.

MEN OF ACTION

The deeds of the explorer for whom America was named are narrated in *Amerigo Vespucci* (Columbia) by Frederick J. Pohl. *Walter Clark, Fighting Judge* (Univ. of North Carolina Press) is a presentation of the Confederate officer, later chief justice of North Carolina, by Aubrey L. Brooks. *Thomas Cresap,* first permanent settler in western Maryland, is sketched by Kenneth P. Bailey (Christopher). *As a Cavalryman Remembers* (Caxton), by George B. Rodney, is the author's memoirs of his service in the Philippines and the West. *Cavalryman Out of the West* (Caxton), by George F. Brinslow, portrays General William Carey Brown. *Ranger Mosby* (Univ. of North Carolina Press) is Virgil C. Jones' account of the Civil War leader, lawyer, and consul. Admiral George Dewey, somewhat neglected, has a full-length portrait in *The Admiral* (Ziff-Davis), by Laurin H. Healy and Luis Kutner. The following biographies of General Eisenhower have appeared: by Frances T. Miller, *Eisenhower: Man and Soldier* (Winston); by D. W. Lovelace, *General Ike Eisenhower* (Crowell); by Alden Hatch, *General Ike* (Holt). *MacArthur and the War Against Japan* (Scribner) is by Frazier Hunt.

A group of frontier books are listed: Sverre Nord's *A Logger's Odyssey* (Caxton); C. L. Douglas', *James Bowie: the Life of a Bravo* (Dallas, Banks, Upshaw); Carl P. Benedict's *A Tenderfoot Kid on Gyp Water* (Texas Folklore Society), one of a series of personal narratives by rangemen; a narrative peculiarly Wyoming, *William Chapin Deming* (A. H. Clark Co.), by Agnes W. Spring.

SCIENTISTS, NATURALISTS, DOCTORS

Greville and Dorothy Bathe collaborated in a life of the early inventor Jacob Perkins, 1766-1849 (Historical Society of Pennsylvania). *David Dale Owen: Pioneer Geologist of the Middle West* (Indiana Historical Bureau) is by Walter B. Hendrickson. Elihu Thomas is the subject of *Beloved Scientist* (Whittlesey), a well done work on the eminent chemist and electrical engineer, by David O. Woodbury. The Americanized Nikola Tesla, pioneer in electrical developments, is portrayed by John J. O'Neill in *Prodigal Genius* (Washburn). A book of interest to botanists is *John Merle Coulter, Missionary in Science* (Princeton Univ. Press) by Andrew D. Rodgers III. Dmitri Marianoff and Palma Wayne's *Einstein* (Doubleday) had an unfavorable reception from its subject. *A Doctor Comes to California* (California Historical Society) is the diary of John S. Griffin, a doctor on the Santa Fé trail in the 1840's. *Years of an Army Doctor* (San Antonio, Naylor) is the story of Col. T. Davidson, told by himself. *Beloved Crusader: Lawrence F. Flick, M.D.* (Dorrance) is by the Philadelphia doctor's daughter, Ella M. Flick. In *Doctora in Mexico* (Putnam), Olive Floyd presents the experiences of Dr. Katherine N. Dale. Full of action is Dr. Joseph Breckinridge Bayne's *Bugs and Bullets* (Smith), describing his work during the First World War and since. Medical missions are the background of the reminiscences of Dr. Thomas A. Lambie in *Boot and Saddle in Africa* (Revell).

TEACHERS AND RELIGIOUS LEADERS

Peter Melandy: the Mind and the Soil (Iowa State Historical Society) by Luella M. Wright, is the biography of the founder of the Iowa State College of Agriculture. The life of the leader in education and research, and President of the Carnegie Foundation, Henry S. Pritchett, is recorded by Abraham Flexner (Columbia). Fremont Rider writes of the library pioneer Melvil Dewey (American Library Association). Writer and professor of journalism, Walter B. Pitkin calls his memoirs *On My Own* (Scribner). The Dean of the Wharton School of Business, Emory R. Johnson, uses the title *Life of a University Professor* (Logan Hall, Univ. of Pennsylvania). The late Endicott Peabody is revealed in *Peabody of Groton* (Coward) by Frank D. Ashburn. A group of Catholic leaders includes *James Layney: Jesuit* (Herder) by Joseph H. Fichter; *Mother Butler of Marymount* (Longmans, Green) by Katherine Burton; *No Shadow of Turning* (Longmans, Green), the biography of James Kent Stone (Father Fidelis of the Cross), by Katherine Burton; *Tar Heel Apostle* (Longmans, Green) by John C. Murrett, concerns Thomas Frederick Price, cofounder of Maryknoll; and Harold J. McAuliffe's *Father Tim* (Bruce) sketches the Detroit priest active in labor troubles. *Road to Salem* (Univ. of North Carolina Press) is the story of the Moravian deaconess, Anna Ernst, and the early North Carolina settlement. Peter Trimble Rowe, Alaskan bishop, is the subject of *The Man of Alaska* (Morehouse-Graham) by Thomas Jenkins.

WRITERS

Another analysis of Herman Melville is by William Braswell: *Melville's Religious Thought* (Duke Univ. Press). Two studies of Hawthorne appeared. *Hawthorne the Artist* (University of North Carolina Press) is a critical work by Leland Schubert, while the work by Lawrence S. Hall (Yale) deals with Hawthorne's social thought. A less known figure is George Henry Calvert, 19th century poet and essayist, presented by Ida G. Everson (Columbia). Another interpretation of the poetess Emily Dickinson is by Sister Mary James Power, entitled *In the Name of the Bee* (Sheed). Historian George Bancroft has at last achieved a deserved biography, by Russel B. Nye (Knopf). *Edward Bellamy* (Columbia) by Arthur E. Morgan is the first real study of the author of *Looking Backward*. R. L. Duffus, in *The Innocents at Cedro* (Macmillan) recollects Thorstein Veblen and others of his time. *Show Window of Life* (Los Angeles, Wayside Press) is the autobiography of a pioneer journalist, Elizabeth H. Gregory. *The Gay Illiterate* (Doubleday) is a light book by the movie columnist Louella O. Parsons. A pleasant book, full of anecdotes, is *As Much as I Dare* (Washburn) by Burges Johnson. *Journey from the East* (Knopf) by Mark J. Gayn is a fascinating record of one who lived in the Far East with later years in America. Mrs. Raymond Clapper, in *Watching the World* (Whittlesey) has included in this selection from her husband's writings, a biographical sketch. George Santayana's *Persons and Places* (Scribner) gives us his earlier years.

THE THEATRE

A frank but admiring picture of John Barrymore is Gene Fowler's *Goodnight, Sweet Prince* (Viking). *F. F. Proctor, Vaudeville Pioneer* (Smith) is by William M. Marston and John H. Feller. *The Life of Oliver Morosco, the Oracle of Broadway* (Caxton), compiled from "his own notes and comments" by Helen M. Morosco and Leonard P. Dugger, presents a theatre manager and producer. Maurice Zolotov's *Never Whistle in a Dressing Room* (Dutton) sketches various Broadway personalities. Of the highly entertaining type is Miriam Young's picture of a Floradora girl, *Mother Wore Tights* (Whittlesey). The artist and dancer, Angna Enters, gives a fascinating self revelation in *Silly Girl* (Houghton Mifflin). The singer Grace Moore in her *You're Only Human Once* (Doubleday) presents a popular book which her many admirers have welcomed.

INFORMAL MEMOIRS

In this group are listed some of those increasingly popular books, written sometimes in form almost fiction, but giving valuable pictures of more or less everyday American life of the recent past and the present. Marion Sturges-Jones' *Babes in the Woods* (Putnam) is a volume of teen-age memoirs of Philadelphia. Vera Maynard Osborn's *There Were Two of Us* (Whittlesey) is a book of reminiscences of the author and her brother in a small mid-west town, during the 90's and up to the First World War. Marie M. Manning's *Ladies Now and Then* (Dutton) is the story of Beatrice Fairfax, well known to certain newspaper readers. Emily Kimbrough's *How Dear to My Heart* (Dodd, Mead) is the gay recollections of Emily Kimbrough's earlier days in Indiana. Rosemary Taylor's *Ridin' the Rainbow* (Whittlesey) is a continuation of her vivid pictures of the Southwest, begun in *Chicken*

Every Sunday. Aylene Porter's *Papa Was a Preacher* (Abingdon) is another cheerful volume. Alexander Woollcott's niece, Barbara Woollcott, reveals her early family life in *None But a Mule* (Viking). Edith A. Holton's *Yankees Were Like This* (Harper) recalls Cape Cod life in the 80's and 90's.

MISCELLANEOUS

The earliest figure in this group is Roger Conant, early settler of Salem, whose portrait and setting have been drawn by Clifford K. Shipton (Harvard). *Remember William Penn* is a compilation issued by the William Penn Tercentenary Committee. The diary and letters of a Tennessee girl during the Civil War are restored in Amanda McDowell's *Fiddles in the Cumberlands* (Smith). A large seller has been *Anna and the King of Siam* (Day) by Margaret Landon, telling of a governess in the Siamese court during part of the second half of the 19th century. Frances Willard, reformer, is portrayed by Mary Earhart (Univ. of Chicago Press) while the feminist Carrie Chapman Catt is sketched, with her works, by Mary G. Peck (Wilson). *I Wanted to See* (Macmillan) is the self revelation of the blind Borghild Dahl. *With a Dutch Accent* (Harper) is the narrative of David C. DeJong, an Americanized Dutchman.

Quite different are the adventurous memoirs of the sailor, soldier, writer James Connolly, in *Sea-borne* (Doubleday, Doran). Frank Graham wrote *McGraw of the Giants* (Putnam), the subject being, of course, the baseball manager. The medical missionary and diplomat Horace N. Allen is the subject of a timely work by Fred H. Harrington, *God, Mammon and the Japanese* (Univ. of Wisconsin Press). Louis Waldman's autobiography is entitled *Labor Lawyer* (Dutton). John L. Lewis is the subject of James A. Wechsler's *Labor Baron* (Morrow). The list concludes with four artists. The Museum of Modern Art has issued James J. Sweeney's *Alexander Calder;* Lloyd Goodrich's *Winslow Homer* (Macmillan), with its many reproductions, fills a need; Darrell Garwood's *Artist in Iowa* (Norton) is the life of Grant Wood; Bartlett Cowdrey and H. W. Williams have produced a monograph on the pioneer American artist, William Sidney Mount (Columbia).

FOREIGN SUBJECTS

For some reason, this section contains fewer titles than is usual. Chronologically, the English list begins with a critical biography of the 17th century writer Thomas Traherne by Gladys I. Wade (Princeton Univ. Press). Another work which is largely critical is the study of the 18th century poet Christopher Smart, by Edward G. Ainsworth and Charles E. Noyes (Univ. of Missouri Press). One of the best reviewed books of the year is Joseph W. Krutch's *Samuel Johnson* (Holt). A scholarly product is Louis T. More's *Life and Works of the Honourable Robert Boyle* (Oxford). *Nassau W. Senior* (Humphries) by S. Leon Levy, presents the 19th century British statesman and economist. The Scotch naturalist Patrick Geddes receives excellent attention from Philip Boardman (Univ. of North Carolina Press). The English father of modern surgery receives study in *Joseph Lister* (Bobbs-Merrill) by Rhoda Truax. Popularly received was *Charles Lamb and his Friends* (Bobbs-Merrill) by Will D. Howe. Celebrating the centenary of the poet's birth, Eleanor Ruggles has written a life of Gerard Manley Hopkins (Norton). Mark Longaker's *Ernest Dowson* (Univ. of Pennsylvania Press) is a revealing study of the lyric poet and his friends. Winston Churchill is the subject of two books, one by John Coulter (Humphries), and one, much illustrated, by Rene Kraus (Dutton). The latter author, in *Old Master* (Dutton), also presents Jan Smuts, while MacKenzie King is the subject of a short sketch by Emil Ludwig (Macmillan).

Citizen Toussaint (Little, Brown) by Ralph Korngold is set, of course, in Haiti. A well gotten up volume is Hellmut Lehmann-Haupt's *Terrible Gustave Doré* (N. Y., Marchbanks Press). Anatole France is again studied in a book by Jacob Axebrad (Harper). Janet Flanner's *Petain* (Simon) is a tragic portrait. Henry R. Wagner's *The Rise of Fernando Cortés* (Univ. of California Press) is one of the few studies of the picturesque figure. Another scholarly work is *Suleiman the Magnificent* (Harvard) by Roger E. Merriman. The Danish explorer of the Pacific, Vitus Bering is drawn in *Journey into the Fog* (Doubleday, Doran). Somewhat fictionized is the work by Tryphoza B. Batcheller, *Soul of a Queen* (Brentano), based on the life of Marie de Gonzaga, Queen of Poland. Edwin Honig presents the modern Spanish poet and playwright, Garcia Lorca (New Directions). Helen Nicolay's *China's First Lady* (Appleton) is a portrait of the popular Madame Chiang Kai-shek.

TRAVEL BOOKS

By Helen F. Conover

Division of Bibliography, Library of Congress

GENERAL

Travel books in 1944 were mostly small in size and noteworthy as to illustration. Of the "escape" or adventure literature there was little, and many of the studies of people and places under present conditions are better classified as War Books. In this section we glance at books where primary concern is with country and ways of life.

TOP OF THE WORLD

Interest during the year pointed to the North. First should be mentioned Vilhjalmur Stefansson's *Arctic Manual* (Macmillan). The famous explorer's exhaustive knowledge of the Arctic has been enlisted by the Army Air Corps to provide a practical guide as to ways of life, food, clothing, shelter, and transportation for the airman who may be forced down in icy wastes. The wife of the explorer, Evelyn Stefansson (*Here Is Alaska,* 1943 annual) in *Within the Arctic Circle* (Scribner), gives a beautifully illustrated portrait of the Arctic sections of Alaska, the Soviet Far North, Greenland, Lapland, and the island of Grimsby. Forty years of the life of a trader and hunter in northern Siberia and the Arctic circle are recounted by Olaf Swenson in *Northwest of the World* (Dodd, Mead).

ALASKA

Herbert C. Lanks, who two years ago described the Pan-American Highway surveys in *Highway to Alaska* (Appleton-Century), the 12,000-mile road over which he traveled in an army jeep, the hardships and adventures of this great feat of roadbuilding, and the breath-taking aboriginal country of mountains, lakes, woods, snow which it traverses. Harold Griffin's *Alaska & the Canadian Northwest* (Norton) sketches a broad picture of our new frontier in the rush of development and change resulting from wartime needs and the new highway. Thames Williamson has contributed a volume to the American Folkways series, *Far North Country* (Duell, Sloan) in which, with anecdote, history and legend, he presents our belated frontier as a "land of professional myth." In *We Live in Alaska* (Little, Brown), Constance Helmericks writes a genuine travel book, the pioneering jaunt of a young couple who went by canoe down the Yukon and around the Alaskan peninsula, hunting, fishing, meeting and mingling with Indians, Eskimos, and such white men as crossed their venturesome path.

UNITED STATES

In overall pictures of America, two studies of ourselves by our cousins from across the Atlantic demand mention. The London political scientist, Denis W. Brogan, who in 1943 interpreted for Americans his own country (*The English People*), in 1944 described us for the benefit of his countrymen, in a small book, simple, humorous, and at times profound, *The American Character* (Knopf). A "pamphleteer" for the British Information Service, Hilary Aidan St. George Saunders, toured the United States and Canada in a six-weeks inspection trip, which he reported in an entertaining volume designed to create better understanding, *Pioneers; O Pioneers* (Macmillan). The American past is shown in a delightful book, William E. Woodward's *The Way Our People Lived* (Dutton). The popular historian and biographer of Washington, Grant, and Lafayette has drawn on his wide research to present, in anecdotes of individual groups, intimate pictures of American society at 11 chosen moments from 1650 to 1908.

COUNTRY LIFE

Country Neighborhood (Macmillan) by Elizabeth Coatsworth is a pleasant little book of life in a Maine village. The novelist, Alice Beal Parsons, writes in *The Mountain* (Dutton) charming recollections of her home on a high bluff overlooking the Hudson. Thomas D. Clark in *Pills, Petticoats & Plows; the Southern Country Store* (Bobbs-Merrill) studies the institution which played a major role in the rural life of the postbellum South. The "American Folkways" series swings from northern to southern extreme with Harnett T. Kane's *Deep Delta Country* (Duell, Sloan), a study of the glamorous life and rich folklore of Louisiana sugar plantations. Splendid pictures taken by Charles Krutch and the Graphic Department of the Tennessee Valley Authority combine with a compact and illuminating text on the great New Deal achievement by Robert L. Duffus in *The Valley and Its People, A Portrait of TVA* (Knopf).

CITY LIFE

Simeon Strunsky, columnist of *The New York Times,* in *No Mean City* (Dutton), presents a set of essays on the multifold groups of the great and complex metropolis. Vera Bloom, the daughter of the Congressman Bloom (New York), uses her 20-year experience of the social and diplomatic life of the nation's capital to paint a graphic behind-the-scenes picture in *There's No Place Like Washington* (Putnam).

WATERWAYS

The series publications of 1944 are most interesting in regard to inland waters. In the "Rivers of America" series (Farrar & Rinehart) there are two works—Hulbert Footner's *Rivers of the Eastern Shore; Seventeen Maryland Rivers* maintains the high standard set by this distinguished series; the second is a revision of Walter Havighurst's *Upper Mississippi; a Wilderness Saga,* concentrated on the river and excluding the earlier material on the Scandinavian settlement and lumber industry. A conspicuous new series is that of "The American Lakes," edited by Milo M. Quaife (Bobbs-Merrill). The books are of good size, well printed on good stock, and beautifully illustrated. In each of the year's three books, the great inland lake itself is the protagonist, portrayed in the grandeur of its setting, its history, and the ships that have sailed its surface. The distinguished Mid-western editor and historian, Dr. Quaife, himself submits *Lake Michigan,* Dr. Grace Lee Nute of Minnesota writes *Lake Superior,* and the Toronto historian, Fred Landon, is author of *Lake Huron.* An independent work, Harlan H. Hatcher's *The Great Lakes* (Oxford Univ. Press) gives an account of the whole region, with focus on shipping.

NORTHWEST AND WEST

This year's interest in the Northwestern states is reflected in still other books, John Bartlow Martin's *Call It North Country* (Knopf), the story of upper Michigan, revolving about iron ore, and *Snowshoe Country* (Univ. of Minn. Press) by Florence Page Jaques, a winter-time successor to her *Canoe Country* (1938) and *Geece Fly High* (1939), and like them charmingly illustrated by her husband, Francis Lee Jaques.

Angie Debo's *Prairie City* (Knopf) is a study of a typical Oklahoma community, drawn by the author as a composite of many settlements from the opening of the Cherokee strip in 1889 to the present. Jerry MacMullen's *Paddlewheel Days in California* (Stanford U. Press) gives a comprehensive history of California river and bay steamers. *Westward the Women* by Nancy Wilson Ross (Knopf) is based on the memoirs, letters and diaries of pioneer women in the Far West.

Around the Horn is the journal, 1861-62, of the poet, Edward Rowland Sill, edited by Stanley T. Williams and Barbara D. Simison (Yale U. Press). *Quebec to California in 1785-1786,* the travel diary and observations of Robert Hunter, Jr., a young merchant of London, is edited by Louis B. Wright and Marion Tinling (Huntington Library, San Marino, Calif.).

LATIN AMERICA

Sydney A. Clark's *Mexico; Magnetic Southland* (Dodd, Mead) is a book for prospective travelers, with maps and guides for air and road transportation. Guido Rosa in *Mexico Speaks* (Day) writes the travel narrative of his wanderings through off-the-beaten-track Mexico, talking with folks of all ranks and catching the sense of their life in interesting photographs. An overall picture, Kurt Severin and Lenore Sorsby's *To the South* (Duell, Sloan) ranges widely over intimate aspects of life, particularly Indian culture, in the countries which Severin has photographed during 15 years of Central and South American journeying. *The Green Continent,* edited by Germàn Arciniegas (Knopf) is an anthology of translations from 33 leading South American authors, chosen to provide a comprehensive interpretation of the countries and their people. John Hewlett's *Thunder Beats the Drum* (McBride) relates adventures in the Bolivian jungle.

EUROPE

A welcome offering is Elizabeth Colman's *Portugal, Wharf of Europe* (Scribner) with splendid photographs and slight descriptive text. The journalist, Harold Ettlinger, writes in *Fair Fantastic Paris* (Bobbs-Merrill) loving reminiscences of the queen of cities in days of peace. The African explorer, Attilio Gatti, published *Mediterranean Spotlights* (Scribner), a collection of fine photographs and slight descriptive and historical anecdotes of Crete, Attica, Turkey, Palestine, the North African coast, Sicily, and Italy. Two other handsome pictorial works are published by J. J. Augustin—*Hellas,* photographs by Hoyninger-Huene, text chosen by Hugh Chisholm from the Greek classics and great moderns, and a companion volume, *Roman Towns,* by Ernest Nash, 130 full-page plates of the classical architecture of Rome, Pompeii, and Herculaneum, with accompanying text.

AFRICA AND ASIA

Carveth Wells, author and explorer, has written a useful handbook, *Introducing Africa* (Putnam). R. V. C. Bodley's *Wind in the Sahara* (Coward-McCann) is the narrative of a traveler who spent seven years among the Arabs. Mrs. Ellen Gatti, like her husband, has a new book on their expedition in the equatorial jungle, *Exploring We Would Go* (Scribner). *Stanley's Africa,* by Rafaello Busoni, (Viking) chronicles the exploration of the Congo.

China, Country of Contrasts, by Mary A. Nourse and Celia Goetz (Harcourt, Brace) is a simple bird's-eye view of Chinese land and life. John Morris, an English professor in a Japanese university, writes *Traveller from Tokyo* (Sheridan House), an interesting analysis of Japanese life and manners observed for four years ended six months after Pearl Harbor.

PACIFIC AREA

Two of the most desirable books of the year in the travel category were published with a special eye to the nature study inclinations of service men. *The Pacific World; Its Vast Distances, Its Lands and the Life upon Them, and Its Peoples* (Norton) is edited by Fairfield Osborn, president of the New York Zoological Society, with fascinating maps and plates by Robert M. Chapin and others. The double-page spreads with orthographic projections of the ocean hemisphere, surmounted by birds, plants, wind currents, animals, in full color, are extraordinarily attractive.

The most useful work yet on natural history is a 25-cent pamphlet put out by the *Infantry Journal, Animals of the Pacific World,* by T. D. Carter, J. E. Hill and G. H. H. Tate, of the American Museum of Natural History. It should be of the greatest interest and utility for all service men in the Pacific. Hawthorne Daniel has a new companion volume to his *Islands of the Pacific* (1943 annual) in *Islands of the East Indies* (Putnam).

Frederick L. W. Wood's *Understanding New Zealand* (Coward-McCann) is a general introduction to our allies "down under." There are two real travel books for the Pacific, Osa Johnson's *Bride in the Solomons* (Houghton Mifflin), and William A. Robinson's *10,000 Leagues over the Sea* (Harcourt, Brace), the latter a reprint of the 1932 original account of his voyage in a 10-ton ketch-rigged yacht to the far islands, where today the invasion craft built in his shipyard are landing. Finally, the experienced Far Eastern reporter, Willard Price, has reworked and added new material to his *Pacific Adventure* (1936) in the strategically significant *Japan's Islands of Mystery* (Day).

ATLASES

The term oblique orthographic projection is probably familiar, but it means those maps drawn as though you were looking at a part of a globe on a slant. Two interesting new atlases feature these, Erwin Raisz's *Atlas of Global Geography* (Harper) and Richard Eden Harrison's *Look at the World* (Knopf), a collection of maps for world strategy, published originally in *Fortune.*

EXPLORATION

Leonardo Olschki's *Marco Polo's Precursors* (Johns Hopkins U. Press) treats of the missions at Tartaros of the mid-thirteenth century, Friar John, Brother William, and the elder Polos. Elaine Sanceau writes *The Land of Prester John* (Knopf), an account of the Portuguese adventures to Abyssinia in the age of discovery. Cornelia Goodhue in *Journey into the Fog* (Doubleday, Doran) tells the heroic story of Bering and the last great voyage of exploration into an unsailed sea.

CRITICISM AND BELLES LETTRES

BY MAY LAMBERTON BECKER
READERS' GUIDE, *New York Herald Tribune*

VAN WYCK BROOKS

Van Wyck Brooks' literary history of America that began in 1936 with *The Flowering of New England* and in 1940 continued with *New England: Indian Summer,* reached this year its third volume—the first in chronological order—with the most exciting of the series: *The World of Washington Irving.* Bringing our cultural development to the attention not only of scholars and critics but to the general reader and the "great public," the scope of this volume and its attention not only to leading literary figures but to lesser known writers and artists and their surroundings, creates even for the uninformed the world in which all this took place.

LITERARY EVALUATION

The evaluation of American literature since 1900 in *The Shape of Books to Come* by Donald Adams, provides a sound basis for prophecy of our future literary tendencies. James Truslow Adams in *Frontiers of American Education* made a stimulating study of the part taken by adult education in the development of American life, and indicated the part it might take in our future. Howard Mumford Jones, in *Ideas in America,* a group of papers offered in lieu of a proposed study of the influence of French literature in the United States, surveyed the history of ideas in America and the responsibilities of our literary scholars.

Bernard De Voto's *The Literary Fallacy* made a spirited and provocative analysis of what was wrong with the literary idols of the 1920's. C. L. F. Gohdes, moving further back in our literary history, presented in *American Literature in Nineteenth Century England* the period when interchange of English and American books exerted a profound influence: the central figure is Longfellow. *Henry James: the Major Phase,* by F. O. Matthiessen, is a fresh appraisal based on confidential notebooks and coming to the conclusion that his latest novels were his best. A series of popular broadcasts bringing to radio audiences men and records of a past common to the Americas, reached book form in Archibald MacLeish's *The American Story.* A lively history of the American spirit in terms of our legendary heroes, Walter Blair's *Tall Tale America* used throughout the exuberant humor of its subjects.

LITERARY BIOGRAPHY

Literary biography maintained serenity and reached a high level of excellence in spite of the strain of war. The outstanding success in this field, both in merit and in popularity, was Caroline Drinker Bowen's study of Justice Oliver Wendell Holmes and his family through three generations, *Yankee from Olympus. Walt Whitman: an American,* by Henry Seidel Canby, maintained much-needed balance between personal and literary aspects of the subject. The versatile career of the first American major historian was recorded in Russell B. Nye's *George Bancroft,* and Arthur E. Morgan's *Edward Bellamy* was the first biography of the author of *Looking Backward. Hawthorne: Critic of Society,* by Lawrence Sargent Hall, and *Hawthorne, the Artist,* by Leland Schubert, were respectively concerned with the ethical and the aesthetic aspects of his works. The life work of a great schoolmaster was set forth in Frank D. Ashburn's *Peabody of Groton,* and in *Innocents at Cedro* Robert Duffus created a pleasant flutter with an episode in the career of Thorstein Veblen.

The Exile's Daughter, an informal biography by Cornelia Spencer, a biography of Pearl Buck by her sister, headed the list of books about authors still at work. Margaret Case Harriman's collection of *New Yorker* profiles, *Take Them Up Tenderly,* dealt with contemporary celebrities among whom were writers. *The Letters of Alexander Woollcott,* edited by Beatrice Kaufman and Joseph Hennessey, was supplemented by a lively family record by one of his nieces, Barbara Woollcott, *None But a Mule.* Mary Ellen Chase's enthusiastic presentation of the Bible as literature, in *The Bible and the Common Reader* conveyed the sense of well-founded personal enjoyment that marks the conduct of her classes at Smith College. While Denis W. Brogan's *The American Character* took into account much more than our literature, this brilliant, sympathetic study can not be left out of consideration of the forces shaping what we write.

BIOGRAPHIES OF AUTHORS AND AUTOBIOGRAPHIES

The accustomed flow of literary biography with subjects overseas kept up and in Joseph Wood Krutch's *Samuel Johnson* reached the year's highest point in the only life of the Great Cham which bids fair to live along with Boswell's. *Charles Lamb and his Friends,* by Will David Howe, featured the literary society of the period in a critical biography. In *Thomas Barnes of the Times,* Derek Hudson drew from this powerful editor's determined anonymity an account of his vivid career and a selection of his critical essays hitherto unpublished. *Horace Walpole's Correspondence with Mary and Agnes Berry* appeared in two volumes edited by W. S. Lewis and A. Dayle Wallace. We had among scholarly studies *English Literary Criticism: the Mediaeval Phase,* by John W. H. Atkins; Henry Hitch Adams' *English Domestic and Homilectic Tragedy,* covering the period 1575-1642 when the hero was lowly-born; the new Variorum Edition of Shakespeare, edited by Hyder Edwards, reached *The Sonnets,* and the Shakespearean scholar Elmer Edgar Stoll evaluated English literature *From Shakespeare to Joyce,* while Joseph Campbell and Henry Norton Robinson provided *A Skeleton Key to Finnegan's Wake.*

There was an admiring full-length biography by Jacob Axelrod, *Anatole France: a Life without Illusions;* a study of life, writings, and the phenomena of religious experience, *Gerald Manley Hopkins,* by Eleanor Ruggles; an historical biography, *Ronsard,* by D. B. Wyndham Lewis, a critic thoroughly at home in these times; and in *Heritage of Spain* Nicholson Barney Adams made a survey of Spain's cultural development, including literature, from the Roman occupation to 1936. G. B. Stern continued in *Trumpet Voluntary* her unusual and distinctive contribution to autobiography; this is the third volume, beginning in 1940 when her home was destroyed by bombs. Sir Osbert Sitwell's *Left Hand, Right Hand!* another unusual presentation, took the form of reminiscences of the Sitwells of Renishaw in Derbyshire, against a rich background of English history and character.

THE LITERATURE OF PERSONAL EXPERIENCE

The personal experiences of men at war create a special category in the year's literature, for while no book of this sort could fail of some interest as the material of history, several of these battle reports, under the stress of a situation acting upon the writer's powers, achieved a degree of excellence as literature for which they will be treasured.

Thus the year's book from the best-beloved of American war correspondents, Ernie Pyle's *Brave Men,* creates out of sheer self-forgetfulness and absorption in the lives of others a degree of beauty that might be envied by deliberate word-spinners. There is drive and power in *The Curtain Rises,* by Quentin Reynolds; *They Shall Not Sleep,* Leland Stowe's dispatches from the Far East and Soviet Russia; Robert Sherrod's *Tarawa,* a vivid first hand account of the battle of United States Marines in 1943; the first hand experiences of Melvyn McCoy and Stephen Millink as told to Melbourn Kelley in *Ten Escape from Tojo; Bataan: the Judgment Seat* by Allison Ind, eyewitness story of what happened in the tragic period from May 1941 to May 1942; *The Last Voyage of the Quien Sabe,* by Lars Skattevol, the ordeal of men on a cargo vessel that was torpedoed on its return voyage from Africa; the account of a transatlantic air ferry in Edgar J. Wynn's *Bombers Across,* and of the operations of amphibious forces in Earl Burton's *By Sea and by Land;* the reactions of one whose mission it was to make drawings of war, to the effect of actual conflict, in George Biddle's *Artist at War,* in Tunisia and on the Sicilian and Italian fronts.

The rapidity with which John Gunther's *D Day* reached the public with an account of sending in the news about allied landing in Sicily, and the timeliness of the *Invasion Diary* of Richard Tregaskis and the *Invasion Journal* of Richard Tobin, gave us dashing examples of good reporting. *Death Was Our Escort: the Story of Lt. Edward T. Hamilton,* by Ernest G. Vetter, and *Through the Perilous Night* by Joe James Custer, a sports writer caught at Pearl Harbor and perforce an active war correspondent, are footnotes to history. *Many a Watchful Night,* by John Mason Brown, is a story all its own of the Normandy invasion, by the officer who, speaking through the ships' public address system, gave the men the plan of attack; it is also one of the most memorable pieces of war writing of a year well-favored in this way.

The first volume has appeared of a projected pictorial and historical record covering America's war at sea: *Battle Report,* Pearl Harbor to Coral

Sea, by Walter Karig and Welbourn Kelley. Two breathtaking reports appeared of experience in occupied Europe, *Escape via Berlin* by José Antonio de Aguirre, and Jan Karski's terrific inside account of the Polish underground, *Story of a Secret State*.

There were, however, quieter spiritual experiences, notably *Steep Ascent* by Anne Morrow Lindbergh, in which an airplane trip over the Alps is taken as setting and symbol of a philosophic vision of life, and *The Laughter of My Father,* by Carlos Bulosan, in which the family scene is the Philippines before the Japanese.

OF VARIED CLASSIFICATION

A book difficult to classify but impossible to overlook, *Anna and the King of Siam,* by Margaret Dorothea Landon, was a distinct sensation of the season not only for the treasure of unsuspected factual material it disclosed but for its admirable presentation. Anna Leonowens, a young Welsh widow, was engaged in 1862 by Mongkut, King of Siam, to teach English to his children: she wrote two books about her unique experience out of which, with letters and other documents, her biographer constructed this fascinating book. Certain autobiographic sketches of the year showed the nostalgic affection for life in the last generation. *How Dear to My Heart* is Emily Kimbrough's account of how life went on in Muncie, Indiana when the automobile came in. *Ridin' the Rainbow* by Rosemary Taylor, takes place in Tucson and tells how Papa carried on while Mamma was feeding chicken every Sunday to the boarders of her earlier book. George Panetta shows a similar lighthearted tenderness to the tumultuous Italian family of New York's Mulberry Street that functions in *We Ride a White Donkey*. Tumult and charm, however, were best combined in the personal career of George and Helen Papashvily in *Anything Can Happen* which tells how a Russian became an American.

ESSAYS

Among the year's essays Eric Gill's posthumous *It All Goes Together* revealed the joy in creative work and the interpenetration of joy, work, and religion that was the keynote of his personal character. Paul Green, the playwright, touched in *The Hawthorn Tree* on various aspects of American life and art in a plea for appreciation of fundamental values. Thomas Herbert Johnson edited, in *Return to Freedom* a collection of lectures on the impact upon youth of affairs of our time, delivered by various writers at Lawrenceville. Ten new essays were added to the favorite *One Man's Meat* of Elwyn Brooks White, a volume of essays first appearing in 1942. At the height of the winter rush of publication appeared George Bernard Shaw's *Everybody's Political What's What,* Shavian essays wise and mellow, 20 of them offered, in his own words, as an attempt by a "very ignorant old man to communicate to people still more ignorant than himself such elementary social statics as he has managed to pick up by study and by collision with living persons and hard facts."

ENGLISH LANGUAGE AND LITERATURE

By Donald Nelson Koster
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GENERAL

It is a tribute to the ingenuity of American editors and publishers that, in a year of such acute paper shortage as 1944 was, the output of books and articles dealing with English language and literature was not materially reduced. This survey of the field is, like those which have preceded it, necessarily selective, many brief or highly technical items having been omitted. A complete list of such contributions will be available in the bibliography compiled by A. C. Baugh, A. G. Chester, and M. A. Shaaber in the Supplement to the *Publications of the Modern Language Association* (*PMLA*).* Only the work of American scholars or work which has been published in the United States has been included in the present article.

THE ENGLISH LANGUAGE

Linguistic Bibliography.—Elliott V. K. Dobbie prepared a bibliography of linguistic studies entitled "General and Historical Studies" (*AS*) and Joseph Jones and E. B. Atwood did a bibliography of "Present Day English" (*AS*).

Dialect.—Discussions of American English were to be found in such articles as Steven T. Byington's "Mr. Byington's Brief Case" (*AS*), miscellaneous notes on Americanisms; "Notes on the Philadelphia Dialect" (*AS*) by R. Whitney Tucker; and D. W. Maurer's "'Australian' Rhyming Argot in the American Underworld" (*AS*), an account of rhyming argot, referred to as "Australian" by American criminals.

Words and Terms.—Timely articles came from the pen of Elliott V. K. Dobbie, "The Word 'Commando'" (*AS*) on the history and present uses of the word, and H. L. Mencken, who wrote "Designations for Colored Folk" (*AS*) and "War Words in England" (*AS*), a list of terms used in English newspapers. Margaret M. Bryant contributed "Equivalents of 'Please': the Softened Imperative in Present-Day English" (*AS*).

Basic English.—Interest in Basic English was maintained with the publication of Julia Johnsen's *Basic English* (Wilson), a compilation of opinions and arguments for and against that proposed "universal language." Rose Macaulay kept the pot boiling with an *Atlantic Monthly* article "Against Basic English," to which I. A. Richards replied with "Idle Fears About Basic English" in the pages of the same periodical.

Etymology.—In the field of etymology Charles H. Livingston in "English 'Sheer (Off)'" (*MLN*) traced *sheer,* meaning *turn aside,* to the Latin *exerrare,* while Yakov Malkiel presented "Three Old French Sources of the English 'Arriv-al', 'Withdraw-al' Type" (*JEGP*). Leo Spitzer in "(Gri)-malkin" (*JEGP*) argued for an etymology from French *grimaud* rather than the traditional *grey malkin,* and in "Anglo-French Etymologies" (*MLN*) suggested French etymologies for *cantankerous, culprit, dally, flaunt, foist, gravy, jaunt, rum, trance,* and *trudge.*

Vocabulary.—Dealing with vocabulary are George U. Yule's *The Statistical Study of Literary Vocabulary* (Macmillan) and Edna Rees Williams' *The Conflict of Homonyms in English* (Yale Studies in English, v. 100). In "Latin *versus* English: The Sixteenth-Century Debate Over Scientific Terminology" (*SP*), Francis R. Johnson reveals that "the present character of our scientific vocabulary . . . owes much to the intelligent and discriminating consideration of the problem of terminology by the English scientists themselves."

Pronunciation.—Debated points of Elizabethan pronunciation were examined by Evelyn H. Scholl in the light of evidence from the music of contemporary song books in "New Light on Seventeenth Century Pronunciation from the English School of Lutenist Song Writers" (*PMLA*), and for present-day America, William Cabell Greet in *World Words; Recommended Pronunciations* (Columbia) has prepared a pronunciation guide.

Usage.—A volume which attracted much attention was Frederick Bodmer's *The Loom of Language* (Norton), the theme of which is language, its origins in the past, its growth through history, and its present use for communication between peoples. *Say What You Mean* by John B. Opdycke (Funk and Wagnall) is a self-help book of English usage, and Edmund G. Berry's "Cliches and Their Sources" (*MLN*) offers corrections and additions to Partridge's *Dictionary of Cliches.*

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* Periodicals are cited under the following abbreviations, the reference being always to the volume for the year covered by this review: PMLA, *Publications of the Modern Language Association of America;* MP, *Modern Philology;* JEGP, *Journal of English and Germanic Philology;* SP, *Studies in Philology;* PQ, *Philological Quarterly;* ELH, *English Literary History;* HLQ, *Huntington Library Quarterly;* SAB, *Shakespeare Association Bulletin;* MLQ, *Modern Language Quarterly;* SRL, *Saturday Review of Literature;* AS, *American Speech;* JHI, *Journal of the History of Ideas.* Titles of books are followed by the name of the publisher or press printing the book.

Dictionaries.—Among the new dictionaries were Park Kendall's *Dictionary of Service Slang* (Mill) with cartoon illustrations and *A Pronouncing Dictionary of American English* (Merriam) by John S. Kenyon and Thomas A. Knott, a guide to standard American speech. Too late for listing in THE AMERICAN YEAR BOOK survey of 1943 was the completion of the 18-year project of Sir William A. Craigie and James R. Hulbert, *A Dictionary of American English* (Chicago), published in four volumes and made, like the great *New English Dictionary,* on historical principles.

OLD ENGLISH

Relatively little was published in the field of Old English literature in the year 1944. Stephen J. Herben called attention in "The Ruin Again" (*MLN*) to certain weaknesses of argument in Cecilia Hotchner's *Wessex and Old English Poetry* and reaffirmed his belief that *The Ruin* refers to the Roman wall. In "On *'Fœ der Feorme,'* Beowulf Line 21," (*MLN*) Fritz Mezger suggested that one read *feorme* instead of *bearme*. Howard Meroney in "The Nine Herbs" (*MLN*) brought the number of herbs to the magic nine by recognizing two varieties of "atterlothe," and in "Two Old English Textual Errors" (*MLN*) Meroney suggested emendations for *astigendlice* in Aelfric's *Grammar* (ed. Zupitza, p. 241, 11 9-15) and for *gehealdan* in Matthew (xix, 25), in the Corpus MS of the West Saxon Gospels.

MIDDLE ENGLISH

"Elizabeth, Abbess of Schönau, and Roger of Ford" (*MP*) by Ruth J. Dean treated the writings of Elizabeth, a 12th century feminine mystic. Cecilia Cutts in "The Croxton Play: an Anti-Lollard Piece" (*MLQ*) concluded that the play is thoroughly English and was written as anti-Lollard propaganda.

In the field of the romance, John J. Parry compiled "A Bibliography of Critical Arthurian Literature for the Year 1943" (*MLQ*), and Parry, together with Clark S. Northup, also prepared "The Arthurian Legends: Modern Retellings of the Old Stories—An Annotated Bibliography" (*JEGP*).

In the realm of Chaucerian scholarship Pauline Aiken produces evidence in "Vincent of Beauvais and Chaucer's Knowledge of Alchemy" (*SP*) to show that Chaucer gained his information about alchemy from Vincent of Beauvais' *Speculum Naturale* and *Speculum Doctrinale,* while Robert A. Caldwell with "The Scribe of the Chaucer MS, Cambridge University Library Gg 4.27" (*MLQ*) contends that a careful study of the manuscript supports the view that the scribe was Dutch or Flemish. "Chaucer and Geoffrey of Vinsauf" (*MP*) by Karl Young is a study of the relationship between the *Nun's Priest's Tale* and Geoffrey of Vinsauf's *Nova Poetria,* showing probable influences of the latter upon the former. In "Another Analogue for the Violation of the Maiden in the 'Wife of Bath's Tale'" (*MLN*) George R. Coffman finds an analogue in the story of the enforced conception of St. Cuthbert.

FIFTEENTH CENTURY

Ruth Mohl's "Theories of Monarchy in 'Mum and the Sothsegger'" (*PMLA*) is an analysis of the chief theories of monarchy of the philosopher-poet who created this recently discovered satirical poem. It shows him to have looked forward to the modern democratic state. Marshall W. Stearns contributed two items on the Scottish Chaucerian, Robert Henryson: "Robert Henryson and the Leper Cresseid" (*MLN*), a note on Henryson's allusions to religion and law, and "Robert Henryson and the Aristotelian Tradition of Psychology" (*SP*), in which the poet's sophisticated use of Aristotelian psychology in his *The Testament of Cresseid* is examined. Sister Mary Jeremy in "The English Prose Translation of 'Legenda Aurea'" (*MLN*) revives the suggestion that Osbern Bokenham may have been the translator whose work Caxton used. In "Notes on the Plimpton Manuscript of the 'Court of Sapience'" (*MLN*) Curt F. Bühler states that the manuscript, now at Columbia University and unknown to earlier editors, contains sufficient variations from known texts to indicate the need for a new edition of the poem.

EARLY TUDOR

In the *Catholic World* W. E. Campbell wrote on "William Tyndale," while Frank D. Crane in the *Classical Journal* contended in "Euripides, Erasmus and Lady Lumley" that Lady Lumley's Latin *Iphegenia* is based on Erasmus' adaptation and not on the Greek. Jean Robertson's "Nicholas Breton's Collection of Proverbs" (*HLQ*) was an account of several of Breton's compilations, based upon copies now in the Huntington Library. A work which cut across the entire period of the 16th century was Helen C. White's *Social Criticism in Popular Religious Literature of the Sixteenth Century* (Macmillan). This is a carefully documented study of the social and religious thought of the 16th century as seen through sermons, reformers' pamphlets, and philosophical writings.

THE AGE OF ELIZABETH

The most considerable work in the Elizabethan field in 1944 (aside from Shakespearean study) was E. M. W. Tillyard's *The Elizabethan World Picture* (Macmillan), a scholarly account of how the Elizabethans viewed the physical, spiritual, and philosophical world. In "The Elizabethan Legacy" (*SAB*) George C. Taylor wrote in praise of the Elizabethan delight in the acquisition of knowledge and the Elizabethan freedom of the individual to think, to argue, and to express himself. Donald J. McGinn in "A Perplexing Date in the Marprelate Controversy" (*SP*) presented evidence for dating John Penry's *Appellation unto the Highe Court of Parliament from the bad and injurious dealing of the Archbishop of Canterb.* as March 7, 1589-90. Walter J. Ong's "Historical Backgrounds of Elizabethan and Jacobean Punctuation Theory" (*PMLA*) was a survey of punctuation theories and rules that influenced writers before the 16th century, and an attempt to show the influence of these theories and rules on the systems of punctuation taught in the late 16th and early 17th centuries in England.

A doctoral study which re-evaluated Donne's place in the late English Renaissance with respect to the new science and Donne's mysticism was Nicholas F. Moloney's *John Donne. His Flight from Mediaevalism* (Illinois). Arnold Stein contributed two studies of Donne: "Donne's Harshness and the Elizabethan Tradition" (*SP*), an analysis of the poet's verse, based primarily on the *Satires*, in which Donne's intention to be *harsh* is explained; and "Donne's Prosody" (*PMLA*), an examination of Donne's chief devices for varying the metrical pattern. Lily B. Campbell wrote on Dudley Digges' praise of the military profession and his tribute to Sir Philip Sidney as the pattern of the learned warrior in her article, "Sidney as 'The Learned Soldier'" (*HLQ*).

In the field of the Elizabethan drama, Ruth L. Anderson's "Kingship in Renaissance Drama" (*SP*) was a study of the attitude of Renaissance English dramatists toward the idea of a king, which was one of regarding him as a kind of superman. In "Senecan Influence on Elizabethan Tragedy" (*SAB*) Henry W. Wells contends that the most fruitful influence of Seneca came not in the period from Sackville to Kyd, but in the period marked by the rise of English dramatic satire from Marston and Chapman to Shakespeare's *Hamlet*. Percy Simpson's "The Problem of Authorship of 'Eastward Ho'" (*PMLA*) is a discussion of the parts played by Chapman, Ben Jonson, and Marston in the writing of the play. "Tamburlaine's *Malady*" (*PMLA*) by Johnstone Parr includes the suggestion than in Marlowe Tamburlaine's death is precipitated by his passions and by an unfavorable aspect of the planets. The article also explains the medical, psycho-physiological, and astrological concepts mentioned by Tamburlaine's physician, and therefore involved in the conqueror's death.

SPENSER

An argument that, in his entire outlook on life, Spenser was a Calvinist was presented by Paul N. Siegel in his "Spenser and the Calvinist View of Life" (*SP*). Marshall W. S. Swan in "The 'Sweet Speech' and Spenser's (?) 'Axiochus'" (*ELH*) produced evidence to indicate that Anthony Munday rather than Spenser authored the *Speech* and translated the *Axiochus,* while Dan S. Norton in "Queen Elizabeth's 'Brydale Day'" (*MLQ*) interpreted the ninth stanza of the *Prothalamion* as an allegorical allusion to "Elizabeth's spiritual marriage to England." The *Faerie Queene* inspired three articles, one by Merritt Y. Hughes, "England's Eliza and Spenser's Medina" (*JEGP*), being a discussion of the allegorical significance of the three ladies Medina, Perissa, and Elissa of Book II, while the two others, by Dorothy F. Atkinson, "'*The Wandering Knight',* the Red Cross Knight and 'Miles Dei'" (*HLQ*) and "The Pastorella Episode in 'The Faerie Queene'" (*PMLA*), pointed out respectively the resemblances between Spenser's Book I and Cartigny's *The Wandering Knight* (English translation 1581) and the probable indebtedness of the Pastorella cantos to *The Mirrour of Knighthood.* In "Spenser and E. K." (*SP*) D. T. Starnes is of the opinion that Spenser and "E. K.," the commentator on Spenser, were probably one and the same person, while "Two Spenser Leases" (*MLQ*) by Alexander C. Judson supplies details concerning Spenser's properties at Enniscorthy and New Ross.

SHAKESPEARE

The year was productive of much fine Shakespearean scholarship. S. A. Tannenbaum contributed "Shakespere and His Contemporaries: A Classified Bibliography for 1943" (*SAB*), while from information gathered from prompt books, reviews, and other sources, Arthur C. Sprague wrote *Shakespeare and the Actors; the Stage Business in His Plays (1660-1905)* (Harvard). Emphasis in Sprague's book is on the plays acted from 1740 to 1905. A. H. Scouten and Leo Hughes compiled "A Calendar of Performances of 'I Henry IV' and "II Henry IV' during the First Half of the Eighteenth Century" (*JEGP*) with additions and corrections to the lists in the New Variorum editions of the plays. J. Dover Wilson's *The Fortunes of Falstaff* (Macmillan) is an attempt to account satisfactorily for the rejection of Falstaff at the end of *Henry IV,* Part II. An expansion of the Clark Lectures delivered at Cambridge in 1943, the book contains a new evaluation of Falstaff and Prince Hal. Robert W. Babcock's "Mr. Dover Wilson, The Critics and 'Falstaff'" (*SAB*) is an attempt to throw light on Professor Wilson's present progress in the field of Shakespearean scholarship. In "Falstaff's Clothes" (*MLN*) Henry J. Webb suggests that Shakespeare's description of Falstaff as an army captain doubtless was penned with one eye on flesh-and-blood originals.

A scholarly controversy developed over Hamlet's voyage to England, William W. Lawrence attempting in "Hamlet's Sea-Voyage" (*PMLA*) to explain why Shakespeare retained the voyage in the play, and T. M. Parrott replying with "Hamlet's Sea-Voyage—Bandits or Pirates?" (*SAB*) in which the conclusion is reached that the island scene in *Der Bestrafte Brudermord* comes from the *Ur-Hamlet, i.e.* from the hand of Kyd, and that the business of the pirate ship is Shakespeare's. Other Hamlet items were Max Huhner's "Polonius' Advice to Laertes" (*SAB*) in which the author expresses the opinion that Shakespeare dispensed many of his most philosophic and poetic utterances carelessly and without regard to who spoke them, and Lawrence Babb's "Hamlet, Melancholy, and the Devil" (*MLN*) in which Renaissance works on medicine and psychology are cited to throw added light on *Hamlet,* II, ii.

"The Mirror of All Christian Kings" (*SAB*), by John C. McCloskey, is an analysis of the character of Henry V as Shakespeare presented it, while Ruth L. Anderson in "Excessive Goodness A Tragic Fault" (*SAB*) analyzes several of Shakespeare's characters, especially Timon of Athens, to show the typical Renaissance idea that a man may be undone by his own goodness and therefore must not be "too noble for the world" if he expects to be secure in it. In "Psychology in 'Othello'" (*SAB*) Brents Stirling takes issue with Professor Stoll's position that the character depiction of Othello is apart from psychology. Dorothy F. Atkinson reveals in "The Source of 'Two Gentlemen of Verona'" (*SP*) that the story of Claribel and Floradine in Henry Wotton's *A Courtlie Controversie of Cupids Cautels* is the main source of Shakespeare's play. In "Caterpillars, Sponges, Horseleeches, in Shakspere and in Holinshed" (*SAB*) Sarah Dodson draws parallels between Holinshed and Shakespeare in the use of these terms, while Tucker Brooke in "Shakespeare's Dove-House" (*MLN*) believes that a pigeon-house at "Mary Arden's Cottage" at Wilmcote may have been in Shakespeare's mind when he wrote *Romeo and Juliet,* I, iii. In "Moliere and Shakespeare," published in the *Romanic Review,* Elmer Edgar Stoll finds the two great dramatists "as similar as, without any connection, an English dramatist under Elizabeth and a French dramatist under *le grand monarque* could well be." Finally, William Bran Gates in "O. Henry and Shakspere" (*SAB*) presents representative passages from the American author's work which show his frequent allusions to Shakespeare.

SEVENTEENTH CENTURY

Gladys I. Wade's *Thomas Traherne; with A Selected Bibliography of Criticism, by Robert A. Parker* (Princeton) is both a biography and a critical study of a minor 17th century English Metaphysical poet. The potentialities of Henry Vaughan as a secular poet are discussed by E. L. Marilla in "The Significance of Henry Vaughan's Literary Reputation" (*MLQ*) while Allan H. Gilbert in "Robert Herrick on Death" (*MLQ*) emphasizes the fact that thoughts of death and mortality "form the undertone of a great part of Herrick's verse." J. B. Douds writes on "George Herbert's Use of the Transferred Verb: A Study of the Structure of Poetic Imagery" (*MLQ*). An examination of a recently discovered manuscript song of Henry Lawes is undertaken by Willa McClung Evans in "To Amathea" (*PQ*), while Weldon M. Williams in "The Influence of Ben Jonson's 'Catiline' upon John Oldham's 'Satyrs Upon the Jesuits'" (*ELH*) concludes that Oldham's debt to Jonson is much greater than he acknowledged. "The Neo-Classic Lyric, 1660-1725" (*ELH*) by Catharine Walsh Peltz was a survey of the neo-classic lyrics of the period, with a selection of Rochester, Congreve, and Prior as the three poets who exemplify in their writing the highest reaches of this lyric genre. In "Theories of Pastoral Poetry in England, 1684-1717" (*SP*) J. E. Congleton established the thesis that the writers and critics who expressed themselves on the pastoral during this period were divided into the neo-classic and rationalistic schools. Two biographies of eminent figures of the 17th century were Louis Trenchard More's *The Life and Works of the Honourable Robert Boyle* (Oxford) and William Wistar Comfort's *William Penn 1644-1718: A Tercentenary Estimate* (Pennsylvania), a compact monograph of the great Friend.

In the field of Miltonic research "Milton's References to Plato and Socrates" (*SP*), by Irene Samuel, is an attempt to show Milton's indebtedness to Plato and Socrates by drawing up a table of his references to them. G. F. Sensabaugh's "The 'Milieu' of 'Comus'" (*SP*) examines *Comus* against a background of the clash between Puritans and the Court over Henrietta Maria's promoting of a coterie of platonic love. An analysis of the contradictory attitudes on social issues of Milton and Thomas

Hobbes may be found in Don M. Wolfe's "Milton and Hobbes: A Contrast in Social Temper" (*SP*). The author feels that Milton was a follower of Plato and Wyclif as well as "a guide to Shelley and Emerson in the tradition of humane letters."

EIGHTEENTH CENTURY POETS

Edward G. Ainsworth and Charles E. Noyes collaborated to produce *Christopher Smart* (Missouri), a biographical and critical study of the tragic 18th century poet. "The Eclecticism of Mark Akenside's 'The Pleasures of Imagination'" (*JHI*) by Alfred Owen Aldridge presented a careful analysis of the plan and sources of the poem, showing that Akenside's primary eclectic purpose was to combine the imaginative arts with science and philosophy. Frances Schouler Miller undertook in "The Historic Sense of Thomas Chatterton" (*ELH*) a discussion of the unique historic sense of the poet, which was generated from within rather than being the product of training and travel.

Two Pope items were Donald F. Bond's "Pope's Contributions to the 'Spectator'" (*MLQ*), which brings together the known facts and warns that Ault's attributions (*The Prose Works of Alexander Pope,* 1936) must be regarded with caution, and Hoyt Trowbridge's "Pope, Gay, and The Shepherd's Week" (*MLQ*), which supports Pope's assertion that *The Shepherd's Week* was designed as a burlesque on Ambrose Philips's *Pastorals.* Howard J. Bell, Jr. in "'The Deserted Village' and Goldsmith's Social Doctrines" (*PMLA*) linked the poem to Goldsmith's *Roman History,* published the year before. The author also pointed out that Goldsmith draws a parallel between England and Rome and fears that England, like Rome, will fall "by luxury."

Roland Baughman's "Southey the Schoolboy" (*HLQ*) was an account of letters (now in the Huntington Library) written by Southey to Charles Collins in 1792 and 1793 and dealing in part with Southey's expulsion from Westminster School. "1793-1794: Climacteric Times for 'Romantic' Tendencies in English Ideology" (*JHI*) by Fernand Baldensperger illustrated the theory that "nearly all the ideas connected with the catchword *romantic* found their British culmination during the months covering the greater part of 1793-1794."

EIGHTEENTH CENTURY PROSE WRITERS

Johnson.—The year 1944 was productive of several noteworthy Johnson items, most important among them being Joseph Wood Krutch's splendid biography, *Samuel Johnson* (Holt). This is a full and incisive book, in which the great man and his works are viewed from the standpoint of 20th century scholarship. The same author also contributed "On the Talk of Samuel Johnson and His Friends" to the *American Scholar.* Bertrand H. Bronson wrote *Johnson and Boswell; Three Essays* (California), and Thomas Pyles in *The Romantic Side of Dr. Johnson* (*ELH*), while not attempting to refute the conventional picture of Dr. Johnson as a thoroughgoing neo-classicist in principle, has tried to show that in his life, as distinct from his writings, "he had much in common with the romanticists." In *Pseudo-Johnsoniana* (*MP*) Edward L. McAdam, Jr. removed seven works wrongly attributed to Dr. Johnson from any connection with him, including a life of Goldsmith frequently prefixed to editions of *The Vicar of Wakefield.*

Walpole, Lamb, Swift.—The year saw the publication of volumes 11 and 12 of The Yale Edition of *Horace Walpole's Correspondence* (Yale), edited by W. S. Lewis and A. Dayle Wallace. These volumes cover Walpole's correspondence with Mary and Agnes Berry, and with Barbara Cecilia Seton. Will David Howe's *Charles Lamb and His Friends* (Bobbs-Merrill) is an informal biography of Lamb through which move the literary figures of 18th century London. For Swift, J. H. Neumann in "Jonathan Swift and English Spelling" (*SP*) establishes the influence of Addison, Steele, Defoe, and particularly Swift, in stabilizing English spelling. "Tyson's 'Orang-Outang, *Sive Homo Sylvestris*' and Swift's 'Gulliver's Travels'" (*PMLA*) by M. F. Ashley Montagu attempts to establish a probable influence of Tyson's account of the Pygmie on Swift's creation of his Yahoos.

Smollett and Others.—Lewis M. Knapp's "Rex *Versus* Smollett: More Data on the Smollett-Knowles Libel Case" (*MP*) presents documents revelatory of Smollett's actions and feelings in the famous libel action, while the same writer's "Smollett and the Elder Pitt" (*MLN*) brings together Smollett's published references to Pitt. "Shakespeare in the Eighteenth-Century Novel" (*ELH*) by Robert Gale Noyes is a study of the adulation of Shakespeare to be found in the pages of 18th century English novels. In "Charles Churchill and Criticism in Transition" (*JEGP*) Wallace C. Brown brings together Churchill's critical comments and finds them both neo-classic and anti-neo-classic, and thus symptomatic of critical theory in transition. Wilson O. Clough has conducted an examination of Hogarth, Hume, Burke, and Reynolds with respect to esthetic theory in "Reason and Genius—an Eighteenth Century Dilemma" (*PQ*). "Hume's Epistle to Dr. Arbuthnot, 1734: the Biographical Significance" (*HLQ*) by Ernest S. Mossner is an argument that the unaddressed *Letter to a Physician* was intended for Dr. Arbuthnot and was probably never sent.

THE ROMANTIC POETS

Keats.—The most considerable work on the Romantic Poets published during the year was *Keats and the Victorians* (Yale) by George H. Ford, a study of Keats' influence and rise to fame, 1821-1895. In "William Morris and Keats" (*PMLA*) Clarice Short established the indebtedness of Morris's poetry to Keats with respect to similarities in thought and imagery, while Harold E. Briggs in "Keats, Robertson, and 'That Most Hateful Land'" (*PMLA*) revealed the use Keats made of William Robertson's *The History of America* in writing his second ode to Fanny Brawne. Hyder E. Rollin's "Fanny Keats: Biographical Notes" (*PMLA*) included a hitherto unpublished letter from Fanny Keats to George Keats at Louisville.—Dealing extensively with John Keats is *Against Oblivion* (Macmillan) by Sheila Birkenhead, the first full-length portrait of Joseph Severn, who nursed Keats in his last illness.

Coleridge.—For Coleridge, Clarence D. Thorpe in "Coleridge as Aesthetician and Critic" (*JHI*) provides an answer to those who have lately tended to minimize the significance of Coleridge as a literary critic. Frederick F. Seely's "A Footnote to 'The Road to Xanadu'" (*MLN*) cites a parallel between *The Ancient Mariner* and the ballad of Chevy Chase.

Wordsworth.—There are several Wordsworth items. Robert F. Metzdorf prints "A New Wordsworth Letter" (*MLN*), the letter being from Wordsworth to Croker concerning the latter's proposed edition of Boswell's *Johnson.* In "Wordsworth and Burns" (*PMLA*) Russell Noyes tries to show the extent of Wordsworth's literary debt to Burns, whom Wordsworth understood and appreciated more than has been generally recognized. "The Place of Chaucer and Spenser in the Genesis of 'Peter Bell'" (*PQ*) by Charles E. Mounts is an attempt to reveal the influence of Wordsworth's reading of Chaucer and Spenser on the composition of his poem *Peter Bell.* In "Common Elements in Wordsworth's 'Preface' and Shelley's 'Defence of Poetry'" (*MLQ*) B. R. McElderry, Jr. contends that the fact that certain combinations of ideas occur in both essays argues "a stronger relationship than has heretofore been admitted or emphasized."

Byron.—George S. Hellman, a biographer of Washington Irving, in "A New Byron Discovery" (*SRL*) prints a poem entitled *To Her Who Best Can Understand Them,* which he contends is from the pen of Lord Byron and was found in a mass of Irvingiana. Edward Dudley Hume Johnson's "'Don Juan' in England" (*ELH*) explains the unfavorable reception accorded *Don Juan* by arguing that Byron's error "lay in the fact that he tried to read to a whole nation the lesson which was meant for a delinquent minority" (the aristocracy).

Shelley.—In "Shelley and Claire Again" (*SP*) John Harrington Smith takes issue with Newman White's biography of Shelley with respect to the relationship of the poet and Claire Clairmont.

NINETEENTH CENTURY ESSAYISTS

A thorough and ably written biography of William Hazlitt was *Born Under Saturn* (Macmillan) by Catherine Macdonald Maclean. "Contemporary Criticism of 'Lavengro': A Re-Examination" (*SP*) by J. E. Tilford, Jr. revealed that reviews of Borrow's work in his day were more favorable than unfavorable, contrary to statements of William I. Knapp, author of the first long biography of Borrow (1899). "Lockhart's 'Quarterly' Contributors" (*PMLA*) by Myron F. Brightfield was an attempt to identify the authors of all literary articles in the *Quarterly Review* during John Lockhart's editorship (1826-53). Dorothy Richardson in "Saintsbury and Art for Art's Sake in England" (*PMLA*) suggested the possibility that Saintsbury's influence on generations of students and readers may have been greater and more harmful than has been recognized, while John Tyree Fain in "Ruskin and His Father" (*PMLA*) argued that parental discouragement prevented Ruskin from writing his books on political economy ten years earlier than he did.

"The Bearing of Science on the Thought of Arthur Hugh Clough" (*PMLA*) by Francis W. Palmer examined Clough's consideration of the scientific method as an avenue to truth and his agnostic attitude toward the existence of a personal deity. Rene Wellek in "Carlyle and the Philosophy of History" (*PQ*) made an analysis of Carlyle's position as a historian. The study developed out of the author's disagreement on certain points with Louise M. Young's *Thomas Carlyle and the Art of History* and Hill Shine's *Carlyle and the Saint-Simonians.* Howard M. Jones contributed "Arnold, Aristocracy, and America" to the *American Historical Review,* on Arnold's lecture tour of the United States in 1893.

NINETEENTH CENTURY FICTION AND POETRY

Jane Austen.—One of the most delightful books of the year was *Speaking of Jane Austen* (Harper) by Sheila Kaye-Smith and G. B. Stern, a brilliantly written series of essays on Jane Austen and her novels by two confirmed Janeites.

Irving and Dickens.—Although dealing principally with the United States, Van Wyck Brooks' *The World of Washington Irving* (Dutton) contains interesting chapters on Cooper's and Irving's visits to England, including the latter's meeting with Sir Walter Scott. Two enlightening Dickens items were contributed by T. E. M. Boll: "The Plotting of 'Our Mutual Friend'" (*MP*), an examination of Dickens's notes on the plot with an introductory discussion of them; and "Dickens and Washington Irving" (*MLQ*), an analysis of the influence upon Dickens of his intensive reading in the works of Washington Irving. In "Three Early Works Attributed to Dickens" (*PMLA*) Carolyn W. and Lawrence H. Houtchens brought to light three selections signed by Boz which appeared in the New York *Mirror* in 1837, 1839, and 1841. Internal evidence indicates a probability they were by Dickens.

Reade, Moore, Meredith.—"Fact, Realism, and Morality in Reade's Fiction" (*SP*) by Emerson Grant Sutcliffe was a study of Charles Reade's novels in which his careful dependence on fact is established. Royal A. Gettmann's "George Moore's Revisions of 'The Lake,' 'The Wild Goose,' and 'Esther Waters'" (*PMLA*) provided evidence of Moore's self-discipline and growth as a novelist, while John Robert Moore's "Stevenson's Source for 'The Merry Men'" (*PQ*) established the influence of William E. Aytoun's short story

The Santa Trinidada on *The Merry Men.* Richard B. Hudson's "Meredith's 'The Egoist' as a Play" (*MLN*) was an account of Meredith's and Alfred Sutro's dramatization of the novel.

Wilde.—In "Oscar Wilde and the Devil's Advocate" (*PMLA*) Arthur H. Nethercot examined the work of Wilde and concluded that Wilde was plagued by conscience, that he was at heart a moral man, and that he himself knew that "when the requisite amount of time had passed and he had become only an author, rather than a man, posterity would recognize this truth."

Browning, Rossetti, Swinburne.—The year's most intensive work on a 19th century poet was Mark Longaker's *Ernest Dowson* (Pennsylvania), an excellent biography of Dowson, which contributes much new material. William Lyon Phelps in "A Conversation with Browning" (*ELH*) printed a letter written in 1883 by Caroline Chase describing an interview she had with Browning and offering interesting sidelights on the poet. "The Sources of 'The King's Tragedy'" (*SP*) by Dwight and Helen Culler revealed the principal source of Rossetti's poem to be *The Dethe of the Kynge of Scotis,* a prose chronicle translated by John Shirley about 1440 from an unknown Latin original, while "Swinburne's Use of Elizabethan Drama" (*SP*) by Gaynell C. Spivey showed Swinburne's extensive use of Elizabethan models in writing his own dramas.

CONTEMPORARY LITERATURE

Sir Max Beerbohm; Bibliographical Notes (Harvard) by Albert E. Gallatin contains bibliographies of Beerbohm's works, including lists of introductions he has written for books, and lists of uncollected and unpublished writings and caricatures. Cyril Clemens presents a record of *My Chat with Thomas Hardy* (International Mark Twain Society), while Richard V. Chase in the *American Scholar* considers in his article "Finnegans Wake: An Anthropological Study" that Joyce's book is orthodox rather than unorthodox, comparison of it being made with the novels of Cervantes and Rabelais and with *Gulliver's Travels.* Several Shaw items are to be found in a special Shaw number issued by *The Saturday Review of Literature:* "The Sinner-Saint as Host" by Lawrence Langner, a diary of a 1927 visit to Shaw; "Back to Methuselah" by John Mason Brown, an account of a recent visit to Shaw; "Mephistopheles at the Conventicle," by Donald Smalley, the story of Shaw's brief career in the Browning Society; and "The 'Unsocial Socialist'" by J. D. Thomas, an analysis of Shaw's views as expressed in his novels. About the poets, Sister M. Angelina writes on "The Poetry of Robert Farren" for the *Catholic World,* and Horace Reynolds in "He Offered His Son the Poetry of Life" discusses the influence of his father upon W. B. Yeats in *The New York Times Book Review.*

MISCELLANEOUS

Books difficult to classify according to period included *From Shakespeare to Joyce* (Doubleday, Doran) by Elmer Edgar Stoll, 21 essays, nine on Shakespearean themes, four on Miltonic, and others on up to James Joyce; *English Literary Criticism: The Medieval Phase* (Macmillan) by J. W. H. Atkins, in which the first phases of the growth of a tradition of criticism are discussed; *The House of Macmillan* (Macmillan) by Charles Morgan, in which, to mark the centenary of the famous publishing firm, the author traces its fascinating history and provides interesting sidelights on many eminent English men of letters; and *Endymion in England; the Literary History of a Greek Myth* (King's Crown) by Edward S. LeComte.

ROMANCE LANGUAGES AND LITERATURES

By Madaline Wallis Nichols
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LANGUAGES IN THE WAR

It is logical that, with the world involved in its greatest war, the main emphasis of Romance language scholarship in 1944 was upon the contribution of language to winning the war and furthering a lasting peace. Professional literature either continued to stress the nation's vital need for language skill or it contained descriptions and analyses of language programs by which the armed services sought ways of teaching an efficient command of the spoken word.

Stating that it considered "a knowledge of foreign languages essential to the proper conduct of the war and to the proper administration of occupied countries," the War Department established language and area schools in a general Army Specialized Training Program (ASTP). The aim is "to impart to the ASTP trainees a command of the colloquial spoken form of a language and to give the trainee a sound knowledge of the area in which the language is used." Largely imitating the procedure already followed in the intensive modern language work sponsored by the American Council of Learned Societies, the new courses involved 15 hours of work a week for 36 weeks. Three one-hour periods a week were devoted to lectures on language structure, while the rest of the time was spent in six two-hour oral drill sessions, mostly with native instructors, in small groups of not more than 10 students. Vocabulary was limited to materials of practical colloquial speech. Language and civilization of the country involved were studied as a unit.

The results of this program were so effective that there soon appeared in print such astonishing reports upon it as the *Reader's Digest* article on "Why Can't We Teach the GI Way?" More sober analyses of the new program were the *Survey of Language Classes in the Army Specialized Training Program,* published by the Modern Language Association of America, and the report of the Yale University President's Committee on the Teaching of Foreign Languages. These surveys noted that the striking results achieved by the ASTP were owing to sound language pedagogy and a time allotment long the wistful dream of many a foreign language department caught between its weekly three hours of class time and an almost limitless program set for accomplishment. If the ASTP work has taught anything, it is that the efficient way to learn a language is to limit one's program reasonably and then really to work at the job.

Other government services besides the Army and Navy continued to emphasize the need for citizens trained in foreign languages. The Office of the Coordinator of Inter-American Affairs and the Office of Education continued to promote the study of Spanish and Portuguese; under the sponsorship of the National Education Association a series of conferences was held to consider improvement in teaching these languages and to relate that teaching to other Inter-American content. Indication of the rapid growth of Portuguese instruction in the United States could be seen from the list of schools now offering work in the language (*Hisp,* 351-355).[1] The annual Croft survey showed an increase of 14 per cent in enrollments in French and Spanish classes despite a decided decline in total college populations.

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[1] Abbreviations used for periodicals are: *BA, Books Abroad; FR, French Review; Hisp, Hispania; HR, Hispanic Review; Ital, Italica; L, Language; MLF, Modern Language Forum; MLJ, Modern Language Journal; MLN, Modern Language Notes; MLQ, Modern Language Quarterly; MP, Modern Philology; PMLA, Publications of the Modern Language Association; PQ, Philological Quarterly; RI, Revista ibero-americana; RR, Romanic Review; S, Speculum; SP, Studies in Philology.*

In the more rarified atmosphere of so-called "creative" work, the scholarly journals began to reflect the cumulative effect upon productive scholarship of the reduction in graduate work, as young men and women left school to enter the armed services and professors turned from scholarly research into general war work. The blockade of materials from abroad and paper restrictions at home found their sad reflection in the year's published work. A final melancholy note is to be found in the passing of such scholars as E. C. Armstrong, Paul Hazard, A. Livingston, J. T. Lister, and A. Schinz.

BIBLIOGRAPHY

General.—An excellent general bibliography appears annually in the "Supplement" of the *PMLA*. A. R. Nykel published *Troubadour Studies: A Critical Survey of Recent Books Published in This Field* (Cambridge, Mass.). "Recent literature of the Renaissance. A bibliography" (*SP,* 265-369) included sections on French (S. F. Will), Italian (J. G. Fucilla), Spanish (L. L. Barrett and S. E. Leavitt), and Neo-Latin (D. C. Allen). J. J. Parry published "A bibliography of critical Arthurian literature for the year 1943" (*MLQ,* 229-235), while H. W. Machan's "Annotated bibliography of Modern Language methodology" (*MLJ,* 70-104) covered the period from June, 1942 to June, 1943.

French.—In his seventh annual survey of the books, arts, and reviews dealing with culture and literary history from the XVIth century to the present, D. F. Bond continued his annotated "Anglo-French and Franco-American studies: A current bibliography" (*RR,* 186-202). P. Saintonge and R. W. Christ printed "Omissions and additions to *Fifty years of Molière Studies*" (*MLN,* 282-285), as a supplement to their bibliographical study published by the Johns Hopkins Press in 1942. In an excellent "Liste chronologique des périodiques de langue française du dix-huitième siècle" (*MLQ,* 3-25) G. Bonno listed those published up to 1789. Lois and Albert Gaudin, in "Points de vue. 1943" (*FR,* 270-280), continued the bibliography published in the same review in January and February of 1943, listing the principal works on France and the war, which have appeared from 1939 through 1943.

Italian.—C. S. Singleton continued publication of his annotated "Bibliography of Italian studies in America" (*Ital,* 33-35, 89-90, 131-132), while R. U. Pane covered "Italy in the *National Geographic Magazine,* 1906-1943: A bibliography" (*Ital,* 29-32).

Portuguese (Brazilian).—A useful bibliographical article on new publications and writers of Brazil was W. R. Crawford's "Algunos libros brasileños recientes" (*RI,* 335-341).

Spanish.—J. Sánchez published a valuable bibliography of the "Evolution of the Spanish dictionary" (*Hisp,* 131-137). M. E. Erickson studied "Central America: The literary scene" (*Hisp,* 148-154), while E. R. Moore published an excellent bio-bibliographical article on the Mexican romanticist in "Bibliografía de Ignacio Rodríguez Galván (*RI,* 167-191). Reflecting the growing interest of the Americas in each other's literature were F. Alegría's bibliographical article on "Walt Whitman en Hispanoamérica" (*RI,* 343-356); J. E. Englekirk's outstanding study of "Obras norteamericanas en traducción española. Primera parte" (*RI,* 379-450); W. K. Jones' *Latin American Writers in English Translation* (Pan American Union, Bibliographic Series, no. 30); and R. U. Pane's *English Translations from the Spanish, 1484-1943: A Bibliography* (Rutgers Univ.). S. E. Leavitt continued his useful annual survey of "Theses dealing with Hispano-American language and literature in 1943" (*Hisp,* 163-166).

LANGUAGE

General.—M. H. Roberts studied "The science of idiom: A method of inquiry into the cognitive design of language" (*PMLA,* 291-306), calling attention to the need of an integrating science which would link language to the other phenomena of existence. In connection with the study of "The development of *verécundia* in Ibero-Romance" (*SP,* 501-520), Y. Malkiel considered the general problem of the development of the *-ndy* group in Old Spanish and Portuguese. Individual word studies were: "Romanic *baia,* 'bay'" (*HR,* 11-28), by Henry and Renée Kahane; and "Hängematte" (*MLN,* 374-378), W. Kurrelmeyer's study of the work "hammock" and its equivalents in various European languages. L. Spitzer published two interesting articles on "Anglo-French etymologies" (*SP,* 521-543 and *MLN,* 223-250).

French.—M. A. Pei's article on "French as a World language" (*FR,* 255-262) called attention to the "practical values" which that language has to offer. C. H. Bissell wrote on "Repetition of prepositions with more than one object in French" (*FR,* 199-203) and "*Faire, laisser, voir* and *entendre* with a dependent infinitive" (*MLJ,* 325-337). Two philological studies by P. Delattre were: "L'aperture et la syllabation phonétique" (*FR,* 281-285) and "La syllabation ouverte par la méthode compensatrice" (*FR,* 371-376). C. S. Parker published "Notes on French usage. II. Modified feminine geographical names" (*MLJ,* 254-257), and G. L. Trager studied "The verb morphology of spoken French" (*L,* 131-141). Three articles by A. G. Hatcher were: "*Il tend les mains* vs. *Il tend ses mains*" (*SP,* 457-481); "*Il me prend le bras* vs. *Il prend mon bras*" (*RR,* 156-164); and "*Je le vois sourire; je le vois qui sourit; je le vois souriant,* Part I" (*MLQ,* 275-301). In a study of "*Situation* as a term in literary criticism," H. C. Lancaster considered the early use of the term in French literature to refer to "things of the mind" in the sense of "placed in relation to circumstances" or "position in life" or "position of the mind." E. B. Davis traced the development of "Latin '-ct-'>Old French 'it'" (*MLN,* 75-83), and in "*La vie de Saint Thomas Becket, vers* 4941" (*MLN,* 487-490), R. Levy interpreted the verse indicated and the negative use of the word *alumer.* Interesting studies by L. Spitzer were: "L'étymologie d'un 'cri de Paris'" (*RR,* 244-250); "Charade" (*PQ,* 77-83); "Comme quoi" (*MLN,* 454-460); and "Deux notes argotiques: 1. Larbin. 2. Vingt-deux" (*FR,* 17-23). A. H. Krappe published studies of the words "Antipodes" (*MLN,* 441-447) and "L'autre" (*FR,* 145-148). Other studies of individual expressions were: G. Frank's "Biaus Niès" (*MLN,* 92-93); G. Levi Della Vida's "Chrestiens de la Saincture" (*MLN,* 484-487); and C. H. Livingston's "French etymological notes. Old French masculine *entire;* French *sou, seu*" (*MLQ,* 219-227). Two studies in Provençal terms were: "Old French *veaus, seveaus, siveaus;* Old Provençal *sevals, sivals*" (*SP,* 16-44) by K. Lewent, and "The Provençal expression *Pretz e valor*" (*S,* 488-493) by A. H. Schutz.

Italian.—In "Italian as a war language—and beyond" (*Ital,* 67-71), M. A. Pei called attention to sixty-odd million speakers of Italian who, "with their long traditions of culture and civilization" give "a safe guarantee of present and future linguistic importance." R. A. Hall, Jr. studied "Italian inflection" (*L,* 11-21) and "Italian phonemes and orthography" (*Ital,* 72-82), while V. Luciani noted the use of "Modal auxiliaries in Italian" (*Ital,* 1-12) to bring out "the essential richness, elasticity, and clarity" of that language. Studies of individual expressions were: "*Mola* in Dante's usage" (*S,* 127-129) and note of Dante's use of the word *rame* in "Sounding brass" (*MLN,* 468-469), both by H. D. Austin; G. Bonfante's study of the origin of *stella* in "Lucevan gli occhi suoi puí che la stella" (*Ital,* 116); and "*Decameron* VIII, 9: 'carapignare'" (*MLN,* 88-92), by C. S. Singleton and L. Spitzer.

Portuguese.—In "Two Romance etymologies" (*L,* 77-84) Henry and Renée Kahane studied Italian, *pozzánghera* and Portuguese, *moinante.* Y. Malkiel gave "The etymology of Portuguese *iguaria*" (*L,* 108-130). "An air vocabulary of 100 words in Spanish and Portuguese" was published by R. Rosaldo (*MLJ,* 155-158).

Spanish.—D. L. Bolinger published "More on *ser* and *estar*" (*MLJ,* 233-238) and "Purpose with *por* and *para*"

(*MLJ,* 15-21). I. N. Nelson studied "The contribution of Pineda's *Agricultura Christiana* to the *Diccionario histórico*" (*HR,* 158-167). Y. Malkiel studied "Spanish *deleznar,* 'to slide,' *lezne,* 'smooth, slippery'" (*HR,* 57-65). In glossaries of American Spanish, A. B. Gaarder published "Notes on some Spanish terms in the Southwest" (*Hisp,* 330-334). Two thorough studies by C. E. Kany were: "American Spanish *hasta* without *no*" (*Hisp,* 155-159) and "Impersonal *dizque* and its variants in American Spanish" (*HR,* 168-177). Drawing his examples from South American literature, D. D. Walsh studied "Spanish diminutives" (*Hisp,* 11-20). Two Catalan studies were H. Wieruszowski's "The rise of the Catalan language in the XIIIth century" (*MLN,* 9-20) and L. Spitzer's "Catalonian *ensenestrar, ensinistrar* 'enseñar, adestrar, preparar, ejercitar'" (*HR,* 177).

COMPARATIVE LITERATURE

General.—R. J. Clements published two articles on emblem literature. In the first—"The cult of the poet in Renaissance emblem literature" (*PMLA,* 672-685)—his twofold aim was: "to expand our knowledge of the Renaissance vogue of poetic glory" and "to point out that emblem literature constitutes a vast 'untapped' source of information on daily life and thought in the Renaissance." The second article was on the comparative importance of "Pen and sword in Renaissance emblem literature" (*MLQ,* 131-141). S. H. Thomson surveyed the *Progress of Medieval and Renaissance Studies in the United States and Canada* (Univ. of Colorado, *Bull.* 18).

French.—J. Travis studied "Parallels in poetic device between the Old French epic and the Old Welsh elegy" (*PMLA,* 1-6). Three articles involving literature of the XVIth century were: E. Rose's "Two German translations of Louïze Labé's second sonnet" (*MLQ,* 183-191); D. F. Atkinson's "The source of *Two Gentlemen of Verona*" (*SP,* 223-234), with reference to *Le Printemps d'Yver;* and R. V. Merrill's "Eros and Anteros" (*S,* 265-284), which considered the use of the Anteros myth in French and Italian literature of the Renaissance. E. E. Stoll compared "Molière and Shakespeare" (*RR,* 3-18). Two studies of the influence of French upon literature in English were: T. P. Haviland's "'Préciosité' crosses the Atlantic" (*PMLA,* 131-141), describing the influence of French heroic romance upon the earliest American fiction, and J. H. Warner's "*Emile* in XVIIIth century England" (*PMLA,* 773-791). L. M. Price published *The vogue of Marmontel on the German Stage* (U. of California *Publications in Modern Philology,* XXVII, no. 2). B. M. Woodbridge wrote of "Poets and pessimism; Vigny, Housman *et alii*" (*RR,* 43-51), naming as the *alii* Leopardi, Leconte de Lisle, and James Thomson.

Italian.—A. H. Gilbert studied "The prosperous wittol in Giovanni Battista Modio and Thomas Middleton" (*SP,* 235-237).

Spanish.—Three articles involving the literature of Spain were: W. H. Bohning's "Lope's *El mayor imposible* and Boisrobert's *La folle gageure*" (*HR,* 248-257); R. P. Grant's "Cervantes' *El casamiento engañoso* and Fletcher's *Rule a wife and have a wife*" (*HR,* 330-338); and S. Eoff's "A phase of Pereda's writings in imitation of Balzac" (*MLN,* 460-466). R. A. Castagnaro studied "Bécquer and Gutiérrez Nájera—Some literary similarities" (*Hisp,* 160-163), while R. G. Morley wrote on "La novelística del 'cowboy' y la del gaucho" (*RI,* 255-270) and R. Sedgwick on "Baldomero Lillo and Emile Zola" (*RI,* 321-328). In his very interesting article on "The source of 'Oh, bury me out on the prairie'" (*Hisp,* 29-33), W. S. Hendrix referred to the Mexican *corrido,* "El casamiento de Huiltacoche" and to its relation to other Spanish, Portuguese, and Spanish American ballads.

FRENCH LITERATURE

General.—L. Spitzer published a study of *L'amour lointain de Jaufré Rudel et le sens de la poésie des troubadours* (U. of No. Carolina, *Studies in the Romance Languages and Literature,* No. 5). R. Picard studied "La poésie romantique, la science et la révolution industrielle" (*RR,* 28-42), with the conclusion that Romanticism created "social poetry." P. Perigord noted "Ideas of justice, tolerance, and liberty in French literature" (*MLF,* 3-21), while in "The leaders of French intellectual life—At home and in exile" (*MLJ,* 246-253) M. Stinson collected news of the most famous figures in the world of French letters, covering the period up to November, 1943.

Medieval.—An interesting and scholarly article was published on "The genesis and staging of the *Jeu d'Adam*" (*PMLA,* 7-17), by G. Frank. A. H. Krappe gave "The historical background of Philippe de Thaün's *Bestiaire*" (*MLN,* 325-327). In poetry, K. Lewent's article "On the text of two troubadour poems" (*PMLA,* 605-623) was concerned with the work of Raïmbaut d'Aurenca and Raïmbaut de Vaqueiras; E. B. Ham published a record of recently deciphered "Readings from *Parise la Duchesse*" (*MLN,* 490-493); W. H. Rice published, with introduction and explanatory notes, the text of "Two poems of Michault Taillevent: *Le congié d'amours* and *La bien allee*" (*MP,* 1-8); and L. E. Arnaud edited the 22 songs of "The *Sottes Chansons* in *MS. Douce 308* of the Bodleian Library at Oxford" (*S,* 68-88), including also an introduction and glossary. L. Spitzer analyzed the influence of punctuation upon meaning in "Des guillemets qui changent le climat poétique (Correction et commentaire à la première strophe du Fragment d'Alexandre d'Albéric)" (*PMLA,* 335-348). Two editions of Old French verse were: W. F. Manning's *The Life of Saint Dominic in Old French Verse* (Harvard) and E. Wright's *Ystoire de la passion* (Johns Hopkins). Two articles on Jean de Meun were: V. L. Dedeck-Héry's "Le Boèce de Chaucer et les manuscrits français de la *Consolatio* de J. de Meun (*PMLA,* 18-25) and M. Françon's "Jean de Meun et les origines du naturalisme de la Renaissance" (*PMLA,* 624-645).

Sixteenth Century.—In "Goethe and Ronsard" (*PMLA,* 486-490), W. A. Nitze compared one of the sonnets of the *Continuation des amours* with Goethe's "Erwache Friedericke." G. O. Seiver noted borrowings in "Cicero's *De Oratore* and Rabelais" (*PMLA,* 655-671). J. Guiton concluded that Montaigne was "un bon chrétien" in "Où en est de débat sur la religion de Montaigne?" (*RR,* 98-115). L. E. Dabney studied "An anonymous XVIth century French play on the death of Lucretia" (*MLN,* 448-454). G. Cohen edited *Geoffroy Tory and Catherine de Medici* (N. Y.: Kraus).

Seventeenth Century.—Four articles on the literature of this period were: C. J. Beyer's "Comment Descartes combattit Gassendi" (*PMLA,* 446-455); H. S. Jordan's "The date of one of Saint-Evremond's letters to Lionne" (*MLQ,* 203-206); E. D. Seeber's interesting article on "Sylphs and other elemental beings in French literature since *Le Conte de Gabalis,* 1670" (*PMLA,* 71-83); and C. Lynes' "A defense of the 'Récit de Théramène'" (*MLN,* 387-391).

Eighteenth Century.—A. Delattre published "Dix lettres inédites de Montesquieu" (*RR,* 19-27). G. R. Havens attempted to define "The chronology of Diderot's journey to Langres in 1789" (*MLN,* 33-37). A. Schinz studied "Deux essais mal connus de J. J. Rousseau: Un projet pour l'éducation et un discours sur le style" (*PQ,* 24-32), while G. R. Havens, in "Voltaire, Rousseau, and the 'Lettre sur la Providence'" (*PMLA,* 109-130), noted the influence of this letter upon the relations of the two men and its relation to later works by Rousseau. D. R. McKee studied "Isaac de La Peyrère, a precursor of XVIIIth century critical deists" (*PMLA,* 456-485). A very interesting account of Father Labat's voyage in the West Indies is given in D. S. Schier's article "The missionary and the buccaneers. An episode from Father Labat's *Nouveau Voyage aux Isles de l'Amérique*" (*FR,* 133-144).

Nineteenth Century.—Two articles on the theatre were: T. Marix-Spire's

"Vicissitudes d'un opéra-comique: *La mare au diable,* de George Sand et de Pauline Viardot" (*RR,* 125-146), and N. C. Arvin's "Casimir Bonjour and the French theatre during the Restoration" (*FR,* 204-209), on Bonjour's success as a writer of the comedy of manners. G. M. Fess sought "Personal sources for Maupassant's *Contes*" (*MLN,* 277-281), and R. Parker "Some additional sources of Dumas' *Les trois mousquetaires*" (*MP,* 34-40). In "En marge de la *Chartreuse de Parme.* Apropos de Madame Os" (*MP,* 18-33), R. Vigneron elaborated upon his earlier study, *Stendhal et Mme Os.* Two studies on Sainte-Beuve were: J. Seznec's article "L'Alain Chartier de Sainte-Beuve" (*RR,* 203-219) and G. G. Mahieu's book *Sainte-Beuve aux Etats-Unis* (Princeton). Sister M. F. Zeller studied "Charles Péguy, a crusader for justice in peace and war" (*FR,* 38-47).

On the XIXth century poets, A. Schinz noted Delille's influence on Hugo in the article "Victor Hugo et Delille" (*MLN,* 37-39). A. Schaffer published *The genres of Parnassian poetry: A study of the Parnassian minors* (Johns Hopkins). A. Feuillerat wrote "Sur une lettre de Baudelaire" (*MLN,* 395-397) and "Baudelaire, est-il allé dans l'Inde?" (*FR,* 249-254), while J. D. Bennett's book, *Baudelaire: A criticism,* was announced by the Princeton press. In "Alexandre Vinet and poetry" (*RR,* 116-124), D. M. Frame noted Vinet's ideas. Finally, A. Roche surveyed "Anglo-Saxon attitudes toward Frédéric Mistral and the Félibrige" (*MLQ,* 207-218), with note of a general approval of Mistral and of modern Provençal literature.

Twentieth Century.—Studies of individual modern writers included: F. Baldensperger's "L'esthéthique fondamentale de Jean Giraudoux" (*FR,* 2-10) and L. LeSage's "Jean Giraudoux's case against Germany" (*FR,* 353-357); M. Cook's "René Maran" (*FR,* 157-159); H. March's "The Proustian manner" (*RR,* 52-72) and Mme G. Czoniczer's "Marcel Proust ou Fernand Gregh? Apropos de 'Mystères'" (*RR,* 232-234), with the "Réplique" to this article by René de Messières (*RR,* 234-237); A. Maurois' "François Mauriac" (*FR,* 320-339); V. Orgel's "The poetry of André Spire" (*FR,* 263-269); and F. Lehner's "Henri Troyat" (*FR,* 149-153). W. M. Schuyler's "*La danse devant le miroir:* The evolution of a tragedy" (*MP,* 188-197) was a study of Curel's dramatic technique, while A. Spire studied problems of meter, rhythm, and harmony in French verse in "Plaisir poétique et plaisir musculaire" (*FR,* 48-53). B. Price noted Rivière's disapproval of the introduction of the moral point of view into literature in "Jacques Rivière on *Moralisme et littérature*" (*FR,* 214-219). In "Georges Duhamel: Humanism *versus* the machine" (*FR,* 129-137), B. G. Carter discussed Duhamel's ideas about civilization and culture. C. F. Zeek, in "Democracy and religion" (*FR,* 193-198), started with Chateaubriand's insistence on religion as the mainspring of democracy and found a similar view in such contemporary writers as Saint Exupéry and Maritain.

In French Canadian studies, B. Corrigan wrote an interesting account, with a valuable bibliographical note, of "Henri-Emile Chevalier and his novels of North America" (*RR,* 220-231). A. Viatte noted "Tendances de la littérature canadienne-française" (*FR,* 340-344), and E. L. Michel called attention to the rôle of the land in her article "On perusing the contemporary novels of French Canada" (*MLJ,* 107-110).

ITALIAN LITERATURE

Renaissance.—Dante studies of the year included: A. Lipari's "Dante e la nuova concezione dell'arte nel primo Rinascimento" (*Ital,* 97-115); A. L. Mezzacappa's "Why God resides in Heaven," with its "new interpretation of *Purgatorio,* XI, 2-3" (*Ital,* 49-60); L. Spitzer's "The farcical elements in *Inferno,* Cantos XXI-XXIII" (*MLN,* 83-88); and the "Realistic elements in Dante's *Vita Nuova*" (*MLJ,* 413-421), by Sister Rosa, S. S. J. H. D. Austin wrote about "Dante and mirrors"

(*Ital,* 13-17), while both Austin and V. Cioffarri considered the symbolic green of Beatrice's eyes (*MLN,* 466-467 and *S,* 360-363). A. H. Lograsso noted inaccuracies in "The Grosz illustrations of Dante's *Inferno*" (*Ital,* 86-87).

C. S. Singleton stated his views "On meaning in the *Decameron*" (*Ital,* 117-124).

Other Studies.—Two studies on the XIXth century were: "A Foscolo letter to S. Marchisio" by J. G. Fucilla (*Ital,* 18-20) and A. G. Reichenberger's "Frederico Confalonieri as seen by Fanny Mendelssohn Hensel" (*Ital,* 61-65). Representative of XXth century literature are: "Pàscoli e Saffo," by G. Bonfante (*Ital,* 21-24); "Giovanni Papini," by M. DeFilippis (*MLJ,* 352-364); and "Nota su *L'Infinito* di Giacomo Leopardi," by D. Vittorini (*RR,* 238-243). Two books of the year are A. Pace's critical edition of *Antonio Pucci: Il contrasto delle donne* (Menasha, Wis.: G. Banta) and *The Autobiography of Giambattista Vico* (trans. by M. H. Fisch and T. G. Bergin and published at Cornell U.).

PORTUGUESE (BRAZILIAN) LITERATURE

In "The Cavalheiro de Oliveira—A precursor of Ramaldo Ortigão" (*PMLA,* 90-108), G. E. Moser studied the influence of travel upon a "crusader for liberty" and compared him with Ramaldo.

C. Carpio noted "Poetas brasileños contemporáneos" and translated 36 of their representative poems into Spanish (*RI,* 451-502). Two studies of the Brazilian novelist Aluizio Azevedo are: J. Ornstein's "Notas preliminares para um estudo de Aluizio Azevedo" (*RI,* 391-399) and D. F. Brown's "A naturalistic version of Genesis: Zola and Aluizio Azevedo" (*HR,* 344-351). S. Putnam's translation of E. da Cunha, *Rebellion in the Backlands* (U. of Chicago Press) was one of the outstanding scholarly works of the year.

SPANISH LITERATURE

General.—A. F. G. Bell attempted to define "the rôle of the great Spanish people . . . as apart from that of their politicians" in "The three Spains" (*BA,* 215-221), and H. G. Doyle described the work of a pioneer in the Romance language field, "Longfellow as Professor of Harvard" (*Hisp,* 320-329).

Early Period.—D. C. Clarke sought examples of "The early 'seguidilla'" (*HR,* 211-222). J. L. Heller and R. L. Grismer wrote on "Seneca in the Celestinesque novel" (*HR,* 29-48).

Golden Age.—In "Some aspects of the Spanish 'religious epic' of the Golden Age" (*HR,* 1-10), F. Pierce concluded that "as an epical form of a period when the heroic poem was considered the most elevated type of verse, the 'religious epic' can not be passed over as just another unimportant branch of the enormous literary output of the Golden Age." R. L. Kennedy noted "The new Plaza Mayor of 1620 and its reflections in the literature of the time" (*HR,* 49-57).

In the year's literature on Cervantes, M. Romera-Navarro noted various pictorial interpretations of the Quijote and compared them with literary interpretations (*HR,* 152-157), and the Rutgers University Press announced *An Index to Don Quijote,* by R. Predmore.

Studies of other authors of the period include: C. Bruerton's "Is Aguilar the author of *Los amigos enojados?*" (*HR,* 223-234), with reasons for belief that the play belonged to Gaspar Honorat de Aguilar rather than to Lope de Vega, and his "The chronology of the 'Comedias' of Guillén de Castro" (*HR,* 89-151), which approached the problem from the point of view of versification; W. E. Wilson's "Did Tirso hate the Girones?" (*MLQ,* 27-32); and two articles by M. Romera-Navarro—"Letras características de la escritura graciana" (*HR,* 235-239) and "Puntuación y signos auxiliares en el autógrafo de *El héroe*" (*HR,* 288-305).

Modern Period.—H. Corbató wrote on "Feijóo: A liberal in XVIIIth century Spain" (*RR,* 147-155). In "Galdós's ideas on education" (*Hisp,* 138-147), D. E. Park and H. Sáenz found that Galdós believed in an education "built around the child rather than the curriculum," while A. Elías studied education as portrayed in *Las confesiones de un pequeño filósofo* in his "Los métodos de entonces. Acotaciones al margen de un libro de Azorín" (*Hisp,* 7-10). E. H. Templin noted "Collecting and collectors," "Limitations and margins," and "The harmony of opposites" in a study of "Pío Baroja: Three pivotal concepts" (*HR,* 306-329). In "Unamuno's struggle with words" (*HR,* 183-195), B. W. Wardropper studied the author's "attempt to fashion a language in which he could cast his ideas and feelings." L. Kirschenbaum's *Enrique Gaspar and the social drama of Spain* appeared in the University of California's *Publications in Modern Philology* (XXV, no. 4).

SPANISH AMERICAN LITERATURE

General.—The outstanding study of the year in the field of Spanish American literature—and possibly in the general field of Romance literature—was W. R. Crawford's *A Century of Latin American Thought* (Harvard Univ.). Two other useful books of the year in Spanish American literature were J. R. Spell's *Contemporary Spanish American Fiction* (U. of North Carolina) and C. Castillo's *Antología de la literatura mexicana* (U. of Chicago).

It was interesting to note the emphasis upon the importance of the rôle of men of letters in the furtherance of world peace in such articles as those by the Cuban Gerardo Gallegos, "Intelectuales de América por una América continental" (*RI,* 253-256), the Guatemalan César Brañas, "No repitamos a Europa, americanos, (*RI,* 347-358), and the Honduran Rafael Heliodoro Valle, "Inter-American intellectual co-operation" (*BA,* 8-12). In "El americano nuevo y su actitud poética" (*RI,* 401-422), the Ecuadoran Jorge Carrera Andrade studied the work of those poets who have brought to America a growing "spiritual independence" of the Old World. Two other articles referring to the intellectual cooperation of the Americas were Concha Meléndez' study of book publishing in Latin America, "The Spanish American book" (*BA,* 225-230) and J. F. Shearer's "pioneer publishers of textbooks for Hispanic America; The House of Appleton" (*Hisp,* 21-28).

Miscellaneous articles in the general field of Spanish American literature included I. A. Leonard's "Pérez de Montalbàn, Tomás Gutiérrez, and two book lists" (*HR,* 275-287), indicating that the New World proved a highly profitable market for numerous booksellers in Colonial times despite all official prohibitory decrees on exportation of books. L. F. Xammar published an interesting account of the various descriptions of earthquakes in Peruvian literary history, "El terremoto en la literatura peruana" (*RI,* 107-120). H. H. Chapman, Jr. studied "'La Cometa', a political fable by Andrés Bello" (*HR,* 338-344). In "Aspectos del romanticismo en Colombia" (*RI,* 275-289), R. Maya sought an explanation for his country's "incurable pseudo-romanticism." H. A. Holmes studied "Ildefonso Pereda Valdés y su libro *Negros esclavos y negros libres*" (*RI,* 21-29), while J. T. Reid surveyed "Literary Ecuador in 1943 (*Hisp,* 315-319).

Poetry.—Gastón Figueira wrote of "Manuel del Cabral. Great Antillean poet" (*BA,* 111-114); E. E. Shuler studied "La poesía de Eugenio Florit" (*RI,* 301-324). Other Antillean poets studied were Heredia, "El trípitico de Heredia 'Al sol' " (*HR,* 239-248) by Mother Maria Fidelis and Julián del Casal, "Apuntes sobre Julián del Casal" (*RI,* 329-335) by E. Figueroa. A valuable little anthology of 35 poems by the Guatemalan poet R. Arévalo Martínez was published with a reprint of an essay on the poet by Santiago Argüello of Nicaragua (*RI,* 193-237). For Uruguayan poetry, G. Figueira studied the work of Ana Amalia Clulow, Selva Márquez, and José Lucas in "Tres facetas de la poesía uruguaya joven" (*RI* 373-390), and H. A. Holmes wrote on

"Algunas obras de Sarah Bollo, poetisa uruguaya" (*RI,* 325-334). C. Carpio published a study of "Genio y figura en la obra de Alvaro Yunque" (*RI,* 271-292), while Julieta Carrera studied the work of Alfonsina Storni, Elvira de Alvear, and Norah Lange in "Tres poetisas argentinas" (*RI,* 31-47). Representative of Chilean poetry were Norberto Pinilla's study of Guillermo Blest Gana, "Un poeta romántico chileno" (*RI,* 57-60), while a little anthology of the verse of Julio Vicuña Cifuentes was published with a bio-bibliographical article by Raúl Silva Castro (*RI,* 458-494). "Recordatorio de Ricardo Jaimes Freyre" (*RI,* 121-133), by L. Monguió, was an excellent and useful article on the Bolivian poet. In "The destiny of our Ecuadorean poetry" (*BA,* 128-133), J. Carrera Andrade found that destiny to be "the exaltation of rebellion and mankind's hope." Upon the death of the Colombian poet, Rafael Maya published an "Elogio de Guillermo Valencia" (*RI,* 9-20).

Theatre.—Two articles on the theatre, by H. L. Johnson, were "Noticias dadas por Tomás Gage, a propósito del teatro en España, México y Guatemala, 1624-1637" (*RI,* 257-273) and "Loa representada en Ibagué para la jura del Rey Fernando VI" (*RI,* 293-308). A. M. Espinosa and J. M. Espinosa published "Los Tejanos. A New Mexican Spanish popular dramatic composition of the middle of the XIXth century" (*Hisp,* 291-314), giving the ms. text, linguistic notes, and corrected Spanish text. W. K. Jones added to his earlier studies of the Latin American theatre with "Latin American drama, a postscript" (*BA,* 26-27), while José J. Arrom published his *Historia de la literatura dramática cubana* (Yale Univ.).

Novel.—Two articles on the Argentine novel were O. H. Green's "Gálvez's *La sombra del convento* and its relation to *El diario de Gabriel Quiroga*" (*HR,* 196-210) and E. Kurlat's "Max Dickmann: el novelista y el hombre" (*RI,* 49-56). In "Four Cuban novelists" (*BA,* 235-238), J. A. Portuondo wrote about Lino Novás Calvo, Enrique Serpa, Luis Felipe Rodríguez, and Carlos Montenegro, while M. E. Erickson published "Escritores modernistas de Guatemala. Flavio Herrera" (*RI,* 291-300).

LATIN LITERATURE[*]

By George Depue Hadzsits

Professor, University of Pennsylvania

INTRODUCTORY

The place of classical education in American colleges and universities after the war is part of the larger problem of the nature and fate of the "liberal arts" college. *The American Scholar* (13.4, 389-406) is performing a great service in its free discussions of "The Function of the Liberal Arts College in a Democratic Society," and the Symposium, entitled "New Departures and Old Problems," will, inevitably, provoke thinking, in spite of the fact that the six distinguished participants hold such widely divergent views, perhaps, because of this. Dr. Neilson finds it difficult, in his introductory analysis, to harmonize these views. Vocational education threatens; democracy must be served; "liberal" education must be saved—such are the problems!

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[*] Periodicals are abbreviated as follows: A H R, *American Historical Rev.;* A J A, *American Journal of Archaeology;* A J P, *American Journal of Philology;* C B, *Classical Bulletin;* C J, *Classical Journal;* C O, *Classical Outlook;* C P, *Classical Philology;* C Q, *Classical Quarterly;* C R, *Classical Rev.;* C W, *Classical Weekly;* H S C P, *Harvard Studies in Classical Philology;* H Th R, *Harvard Theological Rev.;* Is., *Isis;* J H I, *Journal of History of Ideas;* J R S, *Journal of Roman Studies;* Lang., *Language;* Ph Q, *Philological Quarterly;* Spec., *Speculum;* P A P A, *Proceedings of the American Philological Association;* T A P A, *Transactions* of the same; Verg., *Vergilius;* Y C S, *Yale Classical Studies* (all references are to 1942).

Biographical information will be found in lists of "Recent Publications," appearing in *C W*, and in "Recent Books," listed in *C J*, as well as under "Classical Articles in Non-Classical Periodicals" which *C J* also publishes.

"Which Are the Liberating Arts?" is the challenging title of the article by Prof. J. H. Randall, Jr. (*The American Scholar* 13.2, 135-148). A brief but excellent survey of the history of the liberal arts in education and the function it was assumed they would perform leads the author to the conclusion that any subject can be greatly taught, so as to liberate the mind, but he is well aware that extraordinary competence in the technical subjects does not result in a nation of free men, which is what, above all, we must have in a democratic world. The danger of over-emphasis on the vocational and the technical is what jeopardizes the future of the so-called liberal arts college.

Prof. Norman Foerster steers wisely through troubled waters in his brilliant "The Faith of the Scholar" (*The American Scholar* 13.2, 224-233), which is a bold challenge to scholarship to deepen its faith in democracy. *Liberal Education Re-examined* (Harper) purports to give the final conclusions of the American Council of Learned Societies on the place of the liberal arts in education after the war. This subject is also examined by Mark Van Doren, *Liberal Education* (Holt), and by Norman Foerster, *The Humanities After the War* (Princeton Univ. Press).

THE "BATTLE OF THE CLASSICS"

In studies such as these, the Classics do not appear in their old and honored role, and it is obvious that the Classics will function in new ways, in the new world. No writer of intelligence questions their importance in education and life, but the place they will occupy in College curricula and in student thinking is by no means clear at present. Classical studies, however, appear secure in the early years of preparatory school education and they must remain so.

"The Humanities in Peace and War" (*CJ* 39, 193-200) is a powerful and eloquent defence of classical education by J. Duncan Spaeth who argues convincingly for the need of the two essentials of science and the humanities in a complete education. "Arsenal for Democracy" is defined as the place where weapons of the spirit are forged. The case of Latin and Greek is ably defended by E. C. Taylor, "The Classics in a Hostile World" (*CJ* 40, 4-9), and one important argument advanced is that the study of Greek and Latin helps us to become citizens of the world.

The November issue of *Education* was entirely devoted to a classical symposium, in which the following well-known classicists participated: Professors DeWitt, Poteat, Skiles, Ullman, Westington, and Withers. Prof. A. M. Withers writes well in *School and Society* (59, 90f.) on the importance of pre-college Latin for language-studies: "Some Reflections on Latin and English." These arguments need constant reiteration!

L. R. Lind contributes a stimulating study, entitled "Toward New Frontiers" (*CJ* 39, 201-213), in which he surveys the classical situation since the days of C. W. Eliot and offers his own enlightened, broadened program for the future of classical education.

H. C. Montgomery writes in complimentary terms of "Thomas Jefferson, as a Philologist" (*AJP* 65, 367-371). Classicists are deeply interested in Thomas Jefferson and in his classical scholarship, as is indicated by the following: "Thomas Jefferson and the Classics," Louis B. Wright (*Proceedings of the American Philosophical Society,* July 14, 1943, lxxxvii. 3); and "The Classics in Jefferson's Theory of Education" (*CJ* 40, 92-98) by Norbert Sand.

In "The Role of the Classics in the Emancipation of Women" (*CJ* 39, 326-342), F. P. Jones sketches the influence of classical training in the lives of a number of famous women, *e.g.,* E. B. Browning, Florence Nightingale, and Charlotte Brontë.

LITERATURE

The Loeb Classical Library volumes appear less frequently during these days of war, but Prof. F. G. Moore is continuing his monumental translations of Livy who speaks to the present generation through a most competent American version.

Prof. Marbury Ogle's presidential address appears in the *TAPA* (74, 1-18). "Romantic Movements in Antiquity" is a brilliant exposition of Professor Ogle's definition of "romanticism" and application of the term to the social and literary movements during the Hellenistic Age and the last centuries of the Roman Empire.

Roman Vergil is announced by Faber, of London, and will be eagerly awaited in this country because of the special equipment of the author, Prof. W. F. J. Knight, for the difficult task of appraising Vergil, anew, for our day and generation. That is one of the most important tasks of classical scholars of successive generations, and interpretation of the highest order is essential for success.

In "Lucretius and the Sixth Book of the *Aeneid*," Agnes Kirsopp Lake Michels again reviews the old problem of Lucretius' influence upon Vergil who is represented by Mrs. Michels as still very much under the influence of Epicurean theories (*AJP* 65, 135-148).

Prof. George E. Duckworth's *The Complete Roman Drama* (Random House, 2 vols.) is especially welcome these days when the Classics are in a precarious position; and attention may properly be called to a review of these important translations, appearing in *CP* (39, 63-64) by that competent student of the Roman drama, J. N. Hough. A fine study of *Classical Drama* by Prof. P. W. Harsh has recently appeared (Stanford Univ. Press).

Prof. Eva M. Sanford essays a difficult task in "The *Verbum Abbreviatum* of Petrus Cantor," (*TAPA*, 74, 33-48) a study of the use of classical citations and *exempla* in Petrus Cantor, a pre-eminent theologian of his time, to illustrate the place of ancient literature in a handbook intended for the moral guidance of the Paris clergy in the late twelfth century. Ovid, Seneca, Horace, Juvenal, Lucan, Cato the Younger, Vergil, Statius, and Cicero, among others, march through these pages as moralists and teachers.

J. W. Spaeth, Jr., has an interesting article (*CJ* 40, 19-23) on "Verse Translations and Imitations of Horace" in the past 40 years.

Prof. John L. Heller offers a remarkably acute lexicographical study, entitled *"Nenia, παίγνιον"* (*TAPA* 74, 215-268). *Nenia* has been commonly interpreted to mean 'dirge,' but Dr. Heller seems to prove conclusively that the central meaning of the word was 'plaything.' This study in semantics is of great importance for the methods of research employed.

It is a special pleasure to call attention to the Undergraduate Prize Essay (vol. v) of L. Richardson, *Poetical Theory in Republican Rome* (Yale Univ. Press).

R. W. Hunt, "Studies on Priscian in the 11th and 12th Centuries" (*Medieval and Renaissance Studies*, I. 2, 194-231) is important. William and Georgina Buckle write a fascinating study of "Inscriptions and Classical Literature" (*CJ* 40, 148-167) in which they call attention to the classical authors who figure in the inscriptions. W. H. Alexander continues his studies of *Seneca's Dialogues* (Univ. of Calif. Press); these textual emendations and explanations are of first importance.

PAPYRI

Prof. H. C. Youtie has made himself a master of papyri, a relatively new source of information opened up for the classical scholar by the discovery of papyri, of which the University of Michigan has a rich collection. Princeton and Columbia are rivals of Michigan in possession of such materials. Youtie's "Diplomatic Notes on Michigan Ostraca" (*CP* 39, 28-40) reveals all of his extraordinary skill. He also does justice to *Papyri in the Princeton University Collections*, by Prof. A. C. Johnson (cf. rev., in *CP* 39, 119-123); this excellent work also receives commendation from Professor Keyes (*AJP* 65, 185-188). *Papyri from Tebtunis*, Part II, *Michigan Papyri* V (Univ. of Michigan Press) has been edited by E. M. Husselman, A. E. R. Boak, and William F. Edgerton.

Professors Winter and Youtie have an interesting article on "Cotton in

Greco-Roman Egypt" (*AJP* 65, 249-258), in the second century *A.D.* This study rests on Michigan papyri. The *Oxyrhynchus Papyri* (see review in *AJP* 65, 386-393, by Professor Oldfather) are, perhaps, the most famous; and Meriwether Stuart's brilliant reconstruction of "P. Oxyrhynchus 668: 188-190" (*CP* 39, 40-44) calls attention to their significance. In this case the papyrus seems to confirm Frontinus on an important point in the history of the Aqua Marcia. Of particular significance is: *The Law of Greco-Roman Egypt in the Light of the Papyri, 332 B.C.-A.D. 640,* by Raphael Taubenschlag (Herald Square Press, Inc., New York).

PHILOSOPHY AND RELIGION

Especial attention should be directed to the work of Richmond Lattimore in his *Themes in Greek and Latin Epitaphs* (Univ. of Illinois Press). The interest this will have, even for the lay reader, is obvious, and the extent of the work is indicated by the fact that 150,000 epitaphs have been studied by the author (for reviews, see *CP* 39, 70-71, and *AJP* 65, 302-303).

D. K. Hill discusses "The Temple above Pompey's Theatre" (*CJ* 39, 360-365) and compares it with parallels in the Roman world. This is not merely an archaeological problem but an important factor in the relation of religion to the drama in Rome.

"Epicurus: All Sensations are True" is the title of an investigation of Prof. Norman W. DeWitt who seeks to disprove a theory that has long been associated with Epicureanism and regarded as fundamental in Epicurean philosophy (*TAPA* 74, 19-32). Professor DeWitt's eminence in his chosen field makes this article of supreme importance in the history of studies of ancient thought, and it has immediate bearing upon all individualistic speculation of the present day.

"Magical Circles and the Fall of Troy" (*CJ* 40, 99-103) draws attention, again, to a fascinating problem in magic and religion which E. S. McCartney has widely explored in the past (cf. *e.g.* *CJ* 39, 408-412, "Gaps in Magical Circles") and which G. E. Duckworth re-opens here.

The distinguished English scholar, H. J. Rose, contributes an illuminating article on "The Pre-Caesarian Calendar: Facts and Reasonable Guesses" (*CJ* 40, 65-76). Professor Rose's contributions to the interpretation of Roman Religion have been many, and this request article will be welcomed by all students of the Calendar.

Dr. Phillip De Lacy's "The Philosophy of the *Aetna*" (*TAPA* 74, 169-178) seeks to prove that the unknown author of the *Aetna* (sometimes attributed to Vergil) had accepted the principles of the Epicurean school. Dr. De Lacy goes beyond earlier rival interpretations that have assigned the poem to Stoic as well as to Epicurean authorship on the basis merely of literary parallels to utterances of the earlier schools.

Agnes Kirsopp Lake Michels discusses "The *Consualia* of December" (*CP* 39, 50) and makes the shrewd suggestion that the December *Consualia* marked the harvesting and storing of the olive crop.

Euhemerism again raises its head in the article of F. Solmsen, "Cicero, *De Natura Deorum,* iii, 53ff." (*CP* 39, 44-47) and Professor Solmsen argues for his interpretation of this important passage as a refutation of Euhemerism but also calls attention to *errata* of Cicero, not noticed by the orator in his own revision of this text.

"Latin *Dii Indigetes, Dii Novensides,* and the Designation of I E Kinship" is the formidable title of an important philological study of Prof. Fritz Mezger (*AJP* 65, 364-366) in which he argues for the meaning of kinship, or descent for the one group of gods, who thus are gods of one's own home, or family, or group, in a patriarchal society.

Agnes Kirsopp Lake Michels analyzes "Παρρησιά and the Satire of Horace" (*CP* 39, 173-177) and brings new light to bear on an old problem, by her own penetrating understanding of Epicurean technique.

Temple Treasures, a doctoral dissertation by Anna H. Griffiths, opens a new and valuable field of investigation (Univ. of Pennsylvania dissertation).

HISTORY

Prof. W. C. Greene submits a timely and valuable presentation of "Some Ancient Attitudes toward War and Peace" (*CJ* 39, 513-532). The Classics must be studied for the lessons they have to teach us. This study is by one of the most learned of our contemporary classical scholars whose knowledge of Plato is no less than his Vergilian erudition.

The American public should be familiar with *Modern Problems in the Ancient World* by Prof. F. B. Marsh (Univ. of Texas Press, 1943); this interesting book appeared too late to be noticed in The American Year Book for 1943 but, emphatically, deserves attention now (cf. the rev. of Professor Boak, in *CP* 39, 203-204).

"The Nature of Rome's Early Appraisal of Greek Culture" (*CP* 39, 209-217) is an admirable study of the late Prof. Catharine Saunders, and is important in emphasizing the fact that "the philhellenes seem to have been slow to relinquish any part of their Roman birthright." The ultimate mingling of Greek and Roman ideals produced that broader cosmopolitanism, of which Cicero's *humanitas* is evidence. It might be added that it was this concept which inspired Augustine and the humanities of the Renaissance.

The Social Basis of Roman Power in Asia Minor (Aberdeen Univ. Press) by the late Sir William M. Ramsay is reviewed by Prof. Casper J. Kraemer, Jr. (*CW* 37:17, 183-184). "The Elephant in Ancient War" (*CJ* 39, 257-269), by R. Glover, opens a grim chapter in human experience, an ancient mode of *Schrecklichkeit.* Under this head, attention should be called to the valuable *A History of Rome, to 565 A.D.,* by Prof. A. E. R. Boak, which has passed through a number of editions (Macmillan) and which will continue to perform a great service in an age that is conspicuously withdrawing from a study of the ancient Greek and Latin languages (see review in *CW* 38.5, 37-38).

Prof. Kurt von Fritz continues his keen, incisive studies in Roman History, in a study of "Sallust and the Attitude of the Roman Nobility at the Time of the Wars against Jugurtha (112-105 B.C.)" (*TAPA* 74, 134-168). Studies of this kind are of importance for the proper prosecution of all historical studies of this day.

"The Study of Ancient History in the Middle Ages" is the title of a significant article by Prof. Eva M. Sanford (*JHI* 5, 21-43). Professor Sanford explains the inaccessibility of the age to Herodotus, Thucydides, and Polybius—even Plutarch—an age that knew Livy only through epitomes, and which admired Suetonius and Lucan, the former of whom probably moulded Charlemagne's idea of imperial power.

The distinguished English scholar, J. L. Myers, has brought a life-time of mature scholarship to bear upon his Frazer Lecture, *Mediterranean Culture* (Cambridge Univ. Press, 1943), which should become known to a wide audience.

Of greatest importance for all classical scholars is the question "Who Were the Etruscans?" and the opinion of David Randall MacIver deserves consideration. Is Herodotus correct who gives us the Lydian tradition? MacIver thinks that this is true and that the migration took place, *ca.* 900 B.C. Or does Dionysius of Halicarnassus give us the truth, with his belief that the Etruscans were indigenous to Italy? Other eminent scholars accept Dionysius. MacIver, however, sees Asiatic, Oriental characteristics in the customs, the religious beliefs, and the inscriptions of the Etruscans (*AJA* 47, 91-94).

Prof. Ethel H. Brewster offers a lively account of "Poster Politics in Ancient Rome and in Later Italy" (*CJ* 39, 466-483), a subject of interest not only to students of Pompeii but of the history of politics.

H. J. Loane discusses "Vespasian's Spice Market and Tribute in Kind" (*CP* 39, 10-21), illuminating the subject of Rome's trade in Eastern spices and perfumes which centered in the

Horrea Piperataria. It is particularly interesting to note that the Stanford University Press has published N. Jasny's *Wheat Prices and Milling Costs in Classical Rome* (in "Wheat Studies of the Food Research Institute," xx. 4); this work is reviewed by T. R. S. Broughton (*CW* 38:5, 39-40). This study is another evidence of our present interest in the economic side of ancient history, so largely stimulated by the indefatigable energy and resourcefulness of the late author of the monumental *Economic Survey of Ancient Rome.* Of special importance in this field is *An Essay on the Nature of Real Property in the Classical World,* by Angelo Segrè (N. Y., Bassiner).

All students of Ovid in exile should read Mary V. Braginton's "Exile under the Roman Emperors" for a proper background of knowledge of this practice from the days of Augustus to Trajan (*CJ* 39, 391-407).

Roman Towns, photographs and text by Ernest Nash (J. J. Augustin, New York), is a volume of excellent photographs in sepia which should reach a wide, interested audience. The 138 plates cover a wide range of types of structures, while the text and plans further clarify the handsome illustrations. (For a review, see *CW* 38:5, 35.)

E. C. Kennedy and G. W. White add to the growing number of books on ancient history, in response to the demand for information on Greece and Rome. Their book is entitled *SPQR History and Social Life of Ancient Rome* (Mason, New York). The reliable *Handbook of Greek and Roman Architecture,* by D. S. Robertson, has appeared in a new edition (MacMillan).

ARCHEOLOGY

Under this head should be listed G. M. A. Richter, "A Bronze (winged) Eros" (*AJA* 47:4, 365-378); F. P. Johnson, "Black-Figure Pottery at Chicago" (*AJA* 47:4, 385-402); Valentine Müller, "The Shrine of Janus Geminus in Rome" (*AJA* 47:4, 437); "Feriale Duranum and Mater Castrorum," by R. O. Fink (*AJA* 48:1, 17-19); *Etruscan Art in the Metropolitan Museum,* by G. M. A. Richter (see review in the *AJP* 65, 410-412, by Prof. D. M. Robinson).

R. G. Austin, in the English *CQ* (38, 17-26) discusses "Quintilian on Painting and Statuary," especially with a view to disclosing the earlier Roman and Greek sources Quintilian had employed. Scholarship of this sort is the most acute kind of detective work which traces statements and doctrines through Pliny, Celsus, and Varro back to Greek authors of the third century B.C.

Dr. Lillian B. Lawler continues her studies of the ancient dance in "The Lily in the Dance" (*AJP* 65, 75-80).

FINALIA

Specialized articles of merit are constantly appearing in classical periodicals. They indicate the breadth and vitality of classical scholarship. Though it may not be possible to review all, a few more must at least be mentioned here: "Suetonius in the Civil Service Under Hadrian" (*AJP* 65, 113-123); "Cicero's Greek Text of Herodotus i. 31" (*AJP* 65, 167), by W. E. Blake; "A Faïence Head of Augustus" in the Metropolitan Museum of New York City, by M. Stuart (*AJA* 48, 171-175); "La Rameau Mystique" by H. Seyrig (*AJA* 48, 20-25); "The Concept of the New or Second Rome in the Middle Ages" by William Hammer (*Speculum* 19, 50-62); "A Note on the Classes of Roman Officials in the Age of Diocletian" (*TAPA* 74, 102-108), by Angelo Segrè; *"Nullus Argento Color* (Horace, *Odes* 2:2:1-4), by W. H. Alexander (*TAPA* 74, 192-201); "Elissa," by William C. McDermott (*TAPA* 74, 205-214); "Voice of Non-Finite Verb Forms in Latin and English" (*TAPA* 74, 269-306), by E. Adelaide Hahn; *"Consules Suffecti* on Roman Brick Stamps" by Herbert Bloch (*CP* 39, 254-255).

The policy of the *Classical Weekly* to have brief "Comment and Conjecture" on ancient topics and authors has proved a valuable experiment, and the 1944 contributions kept pace with the standard and interest of the 1943 essays: *e.g.*, Comment and Conjecture on Horace discuss "The Attitude of Horace toward Art," "Horace's Satiric Use of Fable," "Horace's Opinion of Sallust" (*CW* 37:10, 110-116); "Comment and Conjecture on Greek History" (*CW* 37:11, 122-132), in which eight scholars participate; "Comment and Conjecture on Lucretius" (*CW* 37:12, 135-140) which discusses problems in Lucretius and the recent edition of Leonard and Smith; in the "Comment and Conjecture on Aristotle, Prof. Ludwig Edelstein discusses "Aristotle and the Concept of Evolution" with great acumen and arrives at the conclusion: "In my opinion there can hardly be a doubt that the philosopher Aristotle was not an evolutionist"; "Cicero on *Religio* and *Superstitio*" by Prof. F. Solmsen, who argues that Cicero realized the importance of Stoic philosophy as a system that might lend support to Roman religion (*CW* 37:14, 159-160, under "Comment and Conjecture on Cicero").

Classical Studies in Honor of W. A. Oldfather (Univ. of Illinois Press, 1943) ranks high in the scholarship of its various and varied studies, and it is a fine tribute to a distinguished classicist (see reviews in *CP* 39, 189-192, by Dr. Eugene S. McCartney, and in *AJP* 65, 277-279, by D. M. Robathan; also *CW* 38:4, 31-32, 38:5, 40, for sketches of contents of this important volume).

GREEK LITERATURE

By William Stuart Messer
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GENERAL

The year under review has shown a courageous, although not entirely successful, attempt to maintain the standards of quantity and quality in classical studies, but paper restrictions limited the publication of researches already in manuscript; and the full effect upon scholars of having to teach in foreign fields became operative in July, leaving in many cases no leisure for research. Nor has the quality of the product been able wholly to surmount the obstacles of the times. Original material, accessible in a normal world, has been lacking, and funds of data assembled for programs initiated in the past are becoming depleted. Many of the articles are merely mopping-up operations in fields already securely under control. Meetings of scholars are no longer possible, and this source of inspiration has likewise dried up, yet the record of the year bears eloquent testimony to the potential strength of American classical scholarship and to the certainty of its full recovery after the war.*

LITERATURE AND LITERARY CRITICISM

Homer.—The theory that Homer did not find the character of Hector in the tradition but invented it comes in for a thorough-going examination by F. M. Combellack, in "Homer and Hector" (*AJP* 65, 209), who attempts a point-by-point refutation of Scott's argument in support of this theory. In a monograph rich in references to other literatures, W. M. Hart shows the existence of a broad vein of comedy in the *Odyssey*, with Homer portraying the humor through his dramatic characters, not in propria persona (*High Comedy in Homer*, Univ. of Calif. Pub. in Class. Phil., Berkeley,

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* Abbreviations: *AJA*, *American Journal of Archaeology; AJP*, *American Journal of Philology; CJ*, *Classical Journal; CP*, *Classical Philology; CW*, *Classical Weekly; HSCP*, *Harvard Studies in Classical Philology; HTR*, *Harvard Theological Review; Hes.*, *Hesperia; TAPA*, *Transactions of the American Philological Association*. Titles of books, monographs, and periodicals are italicized; those of articles are in quotation marks. For economy of space, initials are used for Christian names, and abbreviations are universally employed where confusion will not result; in citing pages for articles the first page only is given.

1943). "Magical Circles and the Fall of Troy," by G. E. Duckworth, propounds the thesis that the Trojan Horse was not, in the earliest version of the myth, a military device with fighting men inside, but a magical device so large as to necessitate the demolition of a part of the walls for its entry and thus break the spell of the city's invulnerability (*CJ* 40, 99). M. Tait finds rather a tragic philosophy than an epic in the *Iliad,* in as much as he believes Homer a product of the period which held within it the promise of Ionian philosophy; Achilles and Hector are tragic rather than epic heroes; the Olympian gods are outmoded, and the moral victory goes to man (*TAPA* 74, 49). In a technical note on Homer's meter, J. A. Scott points out that there are over 3,000 instances of the dieresis at the end of the third foot ("The Forbidden Dieresis in Homer," *CP* 39, 112).

Aeschylus.—A sound contribution to the ms. tradition of Aeschylus has been made by A. Turyn in *The Manuscript Tradition of the Tragedies of Aeschylus* (*Polish Institute in America Series,* No. 2). Turyn describes over 130 mss., lists many readings, and constructs an elaborate family tree which in outline will probably live. W. C. Greene schematizes the dramatic and ethical motives in the *Agamemnon,* somewhat in the manner of a symphony, and shows their interplay in the external fortunes of the family of Agamemnon and the vindication of the moral law of fate (*HSCP* 54, 25). G. H. Macurdy tilts against the assertions of the critics that Aeschylus had any intention of discussing a social problem in the *Supplices;* the poet portrayed the heroines, she declares, as tragic girls and gives us a catharsis through fear and pity ("Had the Danaid Trilogy a Social Problem?" *CP* 39, 95).

Aristophanes, Aristotle and Plato.—A study of the 55 repeated lines in Aristophanes (H. W. Miller, "Repetition of Lines in Aristophanes," *AJP* 65, 26) reveals that the repetitions were deliberate, and that each had a definite aim in its context or before the audience. S. M. Pitcher, in "Epic as I Here Define It" (*AJP* 65, 340), demonstrates Aristotle's dependence upon Plato in his definition, in chapter 1 of the *Poetics,* of epopoiia as a group of poetic compositions without musical accompaniment. S. Wilcox, in "Criticisms of Isocrates and his *Philosophia*" (*TAPA* 74, 113), defends the sophists against the charge of teaching skill only in litigation and tries to explain the seemingly hostile criticism of Aristophanes, Plato, and Aristotle.

LITERARY STUDIES

In a paper written for the annual presidential address of the American Philological Association, M. B. Ogle reveals that the characteristics of the romantic movement of the nineteenth century existed in the social and literary manifestations of the Hellenistic Age and the last centuries of the Roman Empire (*TAPA* 74, 1). E. B. Stevens contributes a chapter in the history of the commonplaces of pity (*AJP* 65, 1), tracing three examples from Cleon's speech on the Mityleneans through their recurrence in Euripides and others.

Studies in the influence of the ancients on the moderns are numerous, in the year under review, since the data for such investigations are at hand. The following are typical. J. P. Pritchard, in "Aristotle, Horace, and Wordsworth" (*TAPA* 74, 72), declares that Wordsworth's debt to Aristotle and Horace was great, and that he was generally conscious of the sources whence so much of his literary creed had been drawn. Anthony Trollope is an informing illustration, according to F. P. Jones (*CW* 37, 227), of the influence of familiarity with the classics on mid-Victorian writers. The poet Lowell had a profound knowledge, in the original, of Homer, Vergil, Greek tragedy, and the satirists, which he used at times to be clever at the expense of the classics, as he hated pedantry (E. G. Berry, *CW* 38, 11).

N. Sand gives a mellow account of the deep abiding interest of Jefferson in the classics; Jefferson believed in the classical disciplines for all ranks and classes, and introduced Greek and Latin in all of his curricular suggestions for the University of Virginia and for the Virginia schools (*CJ* 40, 92). "A Modern Version of Aristotle's *Poetics*" (*CW* 37, 147), by G. Yost, is a discussion of Maxwell Anderson's *The Essence of Tragedy,* wherein he finds his touchstone for tragedy in a reinterpretation and combination of three elements in Aristotle: discovery, faulty hero, and catharsis.

An attempt to introduce the Greek Romances to the modern reader is made by E. H. Haight in *Essays on the Greek Romances* (Longmans, Green, 1943); Miss Haight sketches the lives of the authors, adds elaborate synopses of the plots, and explains the technique of this ancient genre. H. Cherniss, in *The Biographical Fashion in Literary Criticism* (Univ. of Calif. Press, Los Angeles, 1943), protests rather ineffectively against the current overemphasis of the biographical facts in the interpretation of literature. "Comment and Conjecture on Ancient Poetry" (*CW* 37, 178) contains notes on Cory's Heraclitus (E. B. Stevens), some verse translations of the fragments of Alcaeus (W. N. Bates), and a discussion of the Unity of Greek Poetry (H. S. Scribner).

INSCRIPTIONS AND PAPYRI

Papyri from Tebtunis, Part 2, by E. M. Husselman, A. E. R. Boak, and W. F. Edgerton (Univ. of Mich. Press) completes the publication of the Michigan papyri from this site, and gives a basis for the reconstruction of its economic and social life under Rome in the first century. J. C. Winter and H. C. Youtie publish two letters from the Michigan papyri with text, translation, and discussion, which permit the inference that cotton as a fabric was in ordinary use in 2nd century Egypt ("Cotton in Graeco-Roman Egypt," *AJP* 65, 249). H. C. Youtie, in "Diplomatic Notes on Michigan Ostraca" (*CP* 39, 28) and "Michigan Ostracon 267" (*CW* 37, 163), throws a great deal of light on the irrigation canals and agricultural economy of Karanis in the Fayum. The same author contributes a significant review of Vol. 3, *Papyri in the Princeton Univ. Collections* (*cf. AYB* 1943, 891 in *CP* 39, 119), with comments, new interpretations, and critical remarks on the text.

In "Greek Horoi and a New Attic Mortgage Inscription" (*Hes.* 13, 16), D. M. Robinson describes the usual forms of Greek mortgages and publishes from his own collection a mortgage inscription which records an outright sale subject to redemption at any time. W. and G. Buckler emphasize the importance of Greek and Latin inscriptions from the standpoint of the information which they give of the personal history of classical writers and of their works, known or unknown ("Inscriptions and Classical Literature," *CJ* 40, 148).

HISTORY AND CIVILIZATION

Many topics in the history of ancient Greece suggest parallels with our own times. J. A. O. Larsen, in "Federation for Peace in Ancient Greece" (*CP* 39, 145), describes the efforts of the Greeks to secure a Panhellenic peace through coöperation and federation—efforts which proved a failure, and the various attempts to humanize warfare; the sketch is chronological, beginning with the Amphictyonic League and continuing through the Hellenic League of 338, with many hints pertinent to the problems of today. W. C. Greene traces from Homer to Vergil the movement of thought on the great issues of war and peace; the heroism, the futility of war, the precariousness of peace, and its eternal worth as the goal of man's endeavor (*CJ* 39, 513). Further timely topics are treated briefly by various hands in one of the *CW* series "Comment and Conjecture on Greek History" (*CW* 37, 122): the dictator idea in ancient political life, the formulation of war aims in Thucydides, commando raids in the Peloponnesian War, how the Athenians handled the drink problem among their slaves, etc.

Herodotus' employment of the speech is the subject of an article by

L. Solmsen (*CP* 39, 241): the speeches are used to elucidate historical events, with anecdotal speeches in regard to the Ionian Revolt, and a much more elaborate and varied form in those connected with the battle of Plataea, where he wishes to interpret the events as he sees and understands them. Interesting details concerning provisions for getting the tribute to Athens have been pieced together from a newly discovered inscription (B. H. Hill and B. D. Meritt, *Hes.* 13, 1). A. W. Gomme, in "Athenian Notes" (*AJP* 65, 321), fills in lacunae and clarifies movements in Athenian politics of the important period 510-483. J. S. Swain, in "Antiochus Epiphanes and Egypt" (*CP* 39, 73), points to the fact that there was a strong oriental revival which threatened the Hellenistic East in the time of Antiochus and that this, rather than the theory that he "regarded the world as something to be conquered rather than governed," explains his foreign policy. Two further volumes of W. Jaeger's *Paideia* have appeared in the translation of G. Highet: vol. 2 *In Search of the Divine Center,* and vol. 3 *The Conflict of Cultural Ideas in the Age of Plato* (Oxford Univ. Press, N. Y., 1943-44).

PHILOSOPHY

There was a noticeable decrease during 1944 in the number of studies devoted to philosophy, a trend discernible in 1943 also. In "The Symbolism of the Sun and Light in the Republic of Plato, I" (*CP* 39, 163), J. A. Notopoulos considers the relation of Plato's thought to symbolism, concluding that Plato took the sun and its light and developed their scientific, intellectual, mystic, and aesthetic aspects to express the most important and vital conception in his philosophy. The same author continues from 1943 (*cf. AYB* 1943, 894) his examination of the influence of Plato on Shelley, broadening his implications to embrace poetry in general (*CJ* 40, 129 "Aristophron, or Platonism and the Poetic Mind").

A sign of the times is the appearance during 1944 of only one volume of translation from the Greek in the Loeb Library, but this volume is an important one in the field of biology: Aristotle, *Generation of Animals,* by A. L. Peck (Harvard Univ. Press, 1943). "Aristotle and the Concept of Evolution" is discussed by L. Edelstein in *CW* 37, 148; he denies the statement of the historians of science that Aristotle "saw a consistent evolution from lower to higher forms of being," and states positively: "In my opinion there can hardly be a doubt that the philosopher Aristotle was not an evolutionist."

N. W. DeWitt explains that Epicurus did not hold that all sensations are true, and points out how later commentators misunderstood and distorted his theories (*TAPA* 74, 19). "Plotinus *Enneads* 2, 2" (*TAPA* 74, 179) is the first of a series of investigations in which P. Merlan attempts to indicate how important a rôle Plotinus' immediate predecessors and contemporaries played in his spiritual development.

RELIGION

A significant article on religion is contributed by M. P. Nilsson, in "Problems of the History of Greek Religion in the Hellenistic and Roman Age" (*HTR* 36, 251); he readjusts the components of Greek forces and Oriental influences in ancient classical religion, and points out the motivation of an urbanization of life (*i.e.,* away from old nature gods) and of a demand for a religion of morality.

"Brief Studies in Myths and Legends" (*CW* 38, 12) contains suggestive notes on the Atalanta and Meleager myth, by M. S. Davis; on the Marathon Race, by W. W. Hyde; on Athens' choice of Athena for the lordship of Attica rather than Poseidon, by W. R. Agard. Artemis Mysia is identified as a plague-goddess whose symbol is the mouse; she came from the Near and Middle East, survived among the Slavs and spread over the European Continent, according to A. H. Krappe (*CP* 39, 178).

Another obscure cult is the topic of a paper by R. Schlaifer, "The Cult of Athena Pallenis" (*HSCP* 54, 35);

the site of her temple was in the deme of Pallene and her worship was the concern of a league of neighboring communities; in the fifth century her treasure was brought to the Acropolis and included in the regular accounts of The Treasurers of the Other Gods.

Under the caption "Brief Studies in Christian Literature" (*CW* 37, 75), various writers contribute notes on the Letters of St. Gregory of Nyssa (Sister M. E. Keenan); on the Greek of *Romans* (12, 19, E. R. Smothers); on the date of Hermas (J. M. Rife); and on the interpretation of the synoptic parable of the mustard plant (K. W. Clark).

THE HUMANITIES

To a certain extent the humanities are necessarily silent in the midst of arms, and this has induced a fear that they may have difficulty in recovering their rightful place in the education of the spirit after the war. Many warnings are being uttered which portray this fear. J. D. Spaeth, in "The Humanities in Peace and War" (*CJ* 39, 193), declares that the threat of war to the world of spirit lies in the tendency to make temporary priorities permanent; the progressives under Dewey and the traditionalists with Hutchins should turn the heat generated by their controversies into an insistence that the humanities be supported in war also. Another writer discovers the great value of the classics in their very "uselessness"; they remind us that we are civilized men and that our interests embrace something more important than daily bread (E. C. Taylor, "The Classics in a Hostile World," *CJ* 40, 4). O. J. Campbell, in "The Hibernation of the Classics" (*CW* 38, 43), voices the widespread belief that the naïve delight of mankind in the triumphs of modern science has obscured the moral and spiritual training of the humanities, and yet this science has not prevented man from selling his soul and body to materialism, or the masses from acting like the hordes of Attila.

B. Dunham (*CP* 39, 214) believes that classicists have tended toward aloofness in the past, and suggests that scholars must ally themselves with vast numbers of those who have no knowledge of scholarship and discover how to make their knowledge useful. In similar vein is the article by L. R. Lind, "Toward New Frontiers in the Classics" (*CJ* 39, 201), which urges a popularization which will interpret the results of profound insight and knowledge of ancient civilization to a wide circle which knows not Latin or Greek.

Ancient Greece is called to the defense of modern France by L. V. Simpson (*CJ* 39, 533), who calls attention to three analogies between Greek and French civilizations: their universality, the perfection of their medium of expression, and their vulnerability. He fears that the talents of France, as those of Greece, are impotent against brute force, and that the democratic world must protect France unless we are to wait a thousand years for truth crushed to earth to rise again.

ART AND ARCHAEOLOGY

Hesperia (13, No. 3) contains the twenty-fifth report of the American excavations in the Athens Agora, consisting of two articles: a discussion of the golden victory statues (nikai), which could be turned into bullion for war purposes (D. B. Thompson); and the publication of inscriptions found in the Agora dig (B. D. Meritt). "Stoa and City Walls on the Pnyx," by H. A. Thompson and R. L. Scranton (*Hes.* 12, 169), is an elaborate summation of conclusions drawn from the explorations of 1936-1937 of the Pnyx with regard to the ancient assembly place of Athens and the city walls on the hill. "Small Objects from the Pnyx, I" (*Hes.* Supplement 7) catalogues and publishes, with illustrations, the small objects found since 1931 in the coöperative excavations of the Greek Government and the American School: dicasts' name-plates, loom weights, glass, figurines, etc., edited by G. R. Davidson and D. B. Thompson.

H. S. Robinson, in "The Tower of the Winds and the Roman Market-

Place" (*AJA* 47, 291), gives a description of the form and the function of this Tower in Athens, which contained a weather-vane, eight elaborate sundials, a water-clock, etc., and of the adjacent market-place, which was built in late Hellenistic or early Roman times and embellished still later with a western gateway from funds contributed by Julius Caesar.

The site of the ancient Ionian city of Colophon was the goal of a joint excavation of the Fogg Art Museum and the American School in 1922, which never saw completion, owing to disturbances in the Near East; but it has seemed wise to "compile from the aging records a preliminary report of the incomplete results," which appears in *Hesperia* (13, No. 2) by L. B. Holland.

ARCHITECTURE

A second edition of D. S. Robertson, *Handbook of Greek and Roman Architecture* (Macmillan), has appeared; a useful handbook for the main facts of Greek, Etruscan, and Roman architecture down to the foundation of Constantinople, carefully revised, with up-to-date chronological tables and bibliographies. An invaluable small book for the history and data of 25 Greek temples is *Greek Temples,* by I. H. Grinnell (Met. Mus. of Art, N. Y., 1943), with plates, architectural glossary, a good overall popular view of the Greek temple. A distinguished book by T. Hamlin, *Greek Revival Architecture* (Oxford Univ. Press, N. Y.) is best described by its subtitle: Being an Account of Important Trends in American Architecture and American Life Prior to the War Between the States.

SCULPTURE

G. E. Mylonas, in "The Bronze Statue from Artemision" (*AJA,* 48, 143), reopens the discussion of the date, sculptor, and identification of the heroic-sized bronze statue recovered from the sea in 1926. Mylonas identifies the statue as that of Zeus, not Poseidon, and attributes it to the workshop of Hageladas. The five known examples of statuary of "The Foot of Sarapis," the upper part of which is usually a bust or figure of Sarapis, with the serpent motif normally present, are published with illustrations and comments by S. Dow and F. S. Upson (*Hes.* 13, 58). The Metropolitan Museum has acquired an outstanding example of bronze sculpture of the middle Hellenistic period, an Eros of great beauty and of technical interest with regard to the Greek lost-wax process of casting; described by G. M. A. Richter (*AJA* 47, 365). Three other items under this head are worthy of mention: M. Bieber, "The Statue of a Ram in Toledo" (*AJA* 47, 378); S. D. Markham, *The Horse in Greek Art* (Johns Hopkins Univ. Press, 1943); and M. J. Milne, "A Greek Footbath in the Metropolitan Museum of Art" (*AJA* 48, 26).

VASES

In "Groups of Early Attic Black-Figure" (*Hes.* 13, 38) and "Panathenaica" (*AJA* 47, 441), the distinguished Oxonian authority Beazley groups the Attic black-figure vases under the various painters or styles, classifying more than 300 vases, and assembles many learned notes on the Panathenaic amphorae and their painters. The University of Chicago's collection of 22 pieces of black-figure is published for the first time by J. P. Johnson (*AJA* 47, 385). D. A. Amyx describes at perhaps too great length, since none of them is unusual, the *Corinthian Vases in the Hearst Collection at San Simeon* (Univ. Calif. Press, 1943). A continuation of the publication of the above collection with scholarly comment is: H. R. W. Smith, *The Hearst Hydria* (Univ. of Calif. Press).

MISCELLANEOUS

D. M. Robinson has produced an excellent treatise, popular in appeal but replete with fact, on the history, archaeology, and recent events in the Dodecanese, as a plea for their assignment to Greece after the war (*The Great Glory and Glamor of the Dodecanese,* Dodecanesian National Council, N. Y., 1944). An interesting compilation of the story of the elephant and its employment in ancient tactics by various peoples and commanders has been made by R. Glover, in "Elephant in Ancient War" (*CJ* 39, 257); the analogy with the tank is incorrect—shock cavalry rather; elephant attacks backfired as often as they succeeded; the Romans evolved tactics to defeat them.

W. W. Hyde reminds us that the Marathon race existed nowhere in antiquity and that the phrase the "revival of the Marathon race" is incorrect: the earliest Marathon race was inaugurated in 1896, when the Olympics were restored in Athens (*CW* 37, 166). G. E. Mylonas summarizes the evidence on rewards to fifth century athletic victors: they were honored with statues, victory songs, privileges, and public grants, but not worshiped; nor were their statues ever more than life size (*CJ* 39, 278).

The Hippocratic Oath (Johns Hopkins Press, 1943), by L. Edelstein, furnishes text, translation, and interpretation of the famous doctor's oath, with results original and at variance with existing conceptions of the oath, tying it in with Pythagorean medicine and dating it toward the end of the fourth century. A volume of *Classical Studies in Honor of W. A. Oldfather* (Univ. of Illinois Press, 1943), comprises, on the Greek side, articles on literature, history, N. T. criticism, social studies, etc. (*cf.* for synopsis *CW* 38, 31).

"Doctoral Dissertations of 1943" in *CW* 247-249 reports 112 doctoral dissertations accepted by American universities which touch classical fields of study, a number almost unvarying in recent years. Few studies are reported in the domains of philosophy, numismatics, epigraphy, text criticism, etc.; more than heretofore deal with literary history and literary relationships.

SEMITIC LANGUAGES AND LITERATURES

By Arthur Jeffery
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ARCHAEOLOGY

Several things of much interest to Semitic studies, though not exactly within the narrower field of Semitics, deserve mention here, especially as they are not likely to be mentioned elsewhere. Pride of place among them is taken by S. N. Kramer's *Sumerian Mythology,* published by the American Philosophical Society (Vol. XXI of their *Memoirs*). This volume, which carries as its sub-title "A Study of Spiritual and Literary Achievement in the Third Millennium B.C.," is the first of a planned series of seven volumes which will make available the literary and religious texts of the Sumerian culture which preceded that of the Semites in the Near East and from which the latter drew a very great deal. The same author's "Epic of Gilgamesh and its Sumerian Sources; a Study in Literary Evolution" (*Jaos* Lxiv No. 1) utilizes the new Sumerian material to give us the most complete account yet published of the structure of this Epic.

Pre-history in Egypt is the preoccupation of Helene J. Kantor's long and well illustrated article (*JNES* III No. 2) in which she attempts to disentangle the strands of evidence relating to the latest stages of the cultures that preceded Dynasty I in ancient Egypt, and concludes that there is doubt whether we are justified in sharply distinguishing between Gerzean and a so-called Semainaean. A paper by Joseph P. Free of Wheaton College (*JNES* No. 3) on "Abraham's Camels" raises the question of the supposed anachronism in Genesis (XII, 16) which speaks of Abraham as having camels when he was down in Egypt, as the point of departure for an archaeological investigation into the evidence we have for the domestication of the camel in Egypt and the Near East, and shows that the evidence, while not abundant is yet continuous from *Cir.* 3000 B.C. to the Greek period.

Drs. Albright, Kelso, and Thorley have collaborated in an article (*BASOR* No. 95) on "Early Bronze Pottery from Bāb ed-Dra'" in Moab, describing in detail the material from an unusually interesting site which was excavated in 1924, but the results of which have not yet been published. Similarly there is a fully illustrated report on "New Chalcolithic Material of Samarran Type found at Baghouz on the Euphrates," with nine plates and complete illustration of the painted motifs (*Jnes* III No. 1); while Th. J. Meek (*Basor* No. 93) catalogues and describes a number of ancient Oriental Seals in the Redpath Library at McGill University. In a curious article "The Prehistory of the Good Shepherd" (*Jnes* III No. 2) Valentine Muller wishes to go behind the Greek Hermes-Criophoros, and carries the origin of the conception back to certain prehistoric rock carvings from Egypt and North Africa, which are illustrated in the article. Samuel Feigin again investigates (*Jqr* XXIV pp. 445-458) the letters among the Amarna Tablets written by Abd-Heba, the Governor of Jerusalem, who was being attacked by the ferocious Habiri and receiving no assistance from his lord. Another reexamination is undertaken by Nelson Glueck (*Basor* No. 92) where he shows reasons for going back to the old identification of Ramoth-Gilead with the village of Remtheh instead of following the more popular identification with Husn 'Ajlun. Perhaps, in this connection, attention should also be called to J. Garstang's article (*Jnes* III No. 1) on "The Hulaya River Land and Dadassaš: a Crucial Problem in Hittite Geography," and certainly should be mentioned a Museum booklet from the Walters Art Gallery in Baltimore, *The Fertile Crescent: Art and History of Bible Lands as Illustrated in the Walters Art Gallery,* by Dorothy Kent Hill.

SEMITIC PHILOLOGY

A. S. Yahuda, after telling some personal reminiscences of his dealings with Salīm, the accomplice of the infamous M. W. Shapira in passing off forged antiquities, raises again the question of the genuineness of the Mesha inscription, which he argues may be part and parcel of the same body of forgeries. (*Jqr* XXXV pp. 139-164) In "An Aramaic Religious Text in Demotic Script" (*Jnes* III No. 4) Raymond A. Bowman discusses a papyrus in the Amherst Collection purchased by the J. P. Morgan Library, and which, though written in Demotic alphabetic characters of the style called "Persian Demotic," had hitherto defied interpretation. Using photographs from the Spiegelberg collection brought to this country by W. F. Edgerton, he works out the puzzle and decides that it is an Aramaic text concerned with religious ritual and representing the curious syncretism prevalent in Syria in the late Achaemenid and early Ptolemaic times.

Quite an amount of interest has been shown in attempts to elucidate the names of God. Bowman in "Yahweh the Speaker" (*Jnes* III No. 1 pp. 1-8) suggested that the Tertrgrammaton might be interpreted as coming from a root meaning "to speak," and James A. Montgomery contributes an attempt to elucidate this problem by pointing to the use of the pronoun "Hu" as a divine title (*Jbl* LXIII 161-162), while W. A Irvine revives a recent theory of Samuel Feigin which gives much the same explanation (*Jnes* III No. 4). In the same journal (No. 4 p. 259) Feigin deals with another divine name "Eloh," and in Levi della Vida discusses the name "El-Elyon" (*Jbl* LXIII No 1). Of quite unusual interest is a paper by Julius Lewy (*Huca* XVIII pp. 429-488) on "The old West Semitic Sun God Ḫammu," which name may occur in the place name Hamat, and in the Amanus range, and in the personal name Hammurabi.

There are four articles of some interest for Hebrew philology (*JBL* LXIII). H. M. Orlinsky (pp. 19-44) has a long discussion of the root SH-K-B; Frank R. Blake (pp. 271-295) discusses the Hebrew Wāw conversive; Mayer Slonim (pp. 297-302) takes up the question of "Masculine Predicates with Feminine Subject in the Hebrew Bible," and Franz Rosenthal (pp. 309-312) discusses the forms "Māgēn, Māsāk and Mā'ōz." Also there is a new discussion of the "Gezer Calendar" with a table of characters by W. F. Albright (*Basor* No. 92). Wolf Leslau deals with the vocabulary common to Akkadian and S. E. Semitic (Ethiopic and South Arabian), not to support the view sometimes advanced that Akkadian and Minaeo-Sabaean represent an Eastern group as opposed to a Western group of Semitic languages, but to illustrate from the side of vocabulary what has been amply demonstrated from the side of morphology, that both preserve some archaic features of Semitic (*Jaos* LXIV No. 2). Finally, mention may be made of a new contribution to Peshitta studies in Hope Broome Down's paper (*Jbl* LXIII pp. 141-159) on "The Peshitto as a Revision."

AKKADIAN

A. L. Oppenheim continues his "Assyriological Gleanings" (*BASOR* No. 93), and in No. 94 thereof there is a new contribution to the study of the Akkadian Gilgamesh Epic by that publication by S. N. Kramer of facsimile, transliteration, translation, and commentary of a new Sumerian fragment on the Death of Gilgamesh, which he uses to illustrate the results of the comparative study of the various texts of this epic. In the same number, four of the Taanach cuneiform letters "To Rewašša" are re-edited and translated with commentary by W. F. Albright. Two contributions to chronology are made (*Jnes* III No. 1), one by Waldo H. Dubberstein on "Assyrian-Babylonian Chronology (669-612 B.C.)," which is followed by A. Goetze's "Additions to Parker and Dubberstein's Babylonian Chronology"; and similarly two contributions to Metrology (*JAOS* LXIV No. 2), Hildegarde Lewy's "Assyro-Babylonian and Israelite Measures of Capacity and Rates of Seeding", and Angelo Segre's "Babylonian, Assyrian and Persian Measures," both of which are provided with Tables. A curious list of Hurrian, Amorite, and Akkadian names from an Old Babylonian Pay-list is published by A. Goetze (*Basor* No. 95), among which are some uncertain names which possibly may point to another ethnic group which it is not possible at present to indentify.

UGARITIC

Basor continues to give much prominence to Ugaritic studies. The question of "The Furniture of El in Canaanite Mythology" (No. 93) continues to be the subject of discussion, T. H. Gaster and W. F. Albright both making contributions. In the same number, A. Goetze finds in one of the Ugaritic tablets a very curious parallel to the Christmas message of "Peace on earth, goodwill to men." There are two papers by W. F. Albright (No. 94) one on "A vow to Ashera in the Keret Epic," and another on "The Natural Force of Moses in the light of Ugaritic," both offering fresh interpretations of the texts. H. L. Ginzberg (No. 95) in an article on "Baal's Two Messengers," argues that the curious combination *Gpn w'Ugr,* occurring in the tablets, means a pair of attendants on Baal, one called *Gpn* and the other *'Ugr.* In the same number, Albright discusses the possibility of there being a fifth Amarna letter to add to the four already found among the Ugaritic material. J. H. Patton's *Canaanite Parallels in the Book of Psalms,* published in typescript form by the Johns Hopkins Press, is an attempt at the application of Ugaritic material to a better understanding of the Psalms, showing word parallels, thought-pattern parallels, and parallels in poetic form.

BIBLICAL

J. Morgenstern's study of "Ephod and Ark" continues (*Huca* XVIII), and two other studies in the same volume, one by Robert Gordis on "The Social Background of the Wisdom Literature," and one by Abraham Cronbach on "The Social Ideas of the Apocrypha and Pseudepigrapha," are contributions to the modern insistence on the social significance of the Bible. Two studies of some importance are those of W. F. Albright on the "Oracles of Balaam" (*JBL* LXIII pp. 207-233) where are presented a suggested reconstructed text with elaborate commentary, and James Muilenberg's study of Psalm XLVII as an Enthronement Psalm, in the same volume (pp. 235-256). G. Ernest Wright's *The Challenge of Israel's Faith* is primarily a discussion of the message of the Old Testament Prophets, making much use of new material made available by archaeological research. A long article by Edwin R. Thiele (*JNES* III No. 3) on "The Chronology of the Kings of Judah and Israel," attempts to state afresh the problem of the chronology, and to present new suggestions for its solution.

The fuller question of Biblical chronology in general is the subject of a book *Biblical Chronology* by M. Vogelstein. In an article "The Perpetuation of Variants in the Masoretic Text" (*JQR* XXXIV pp. 459-474), Frank Zimmermann, mindful of the reluctance of scribes to give up variant readings, suggests that in a proto-Masoretic period well-known variants were included right in the text, sometimes side by side, but more often at the ends of verses or at the cesura, thus explaining a number of redundancies in the present Masoretic text. In the same journal (pp. 281-297) Harry M. Orlinsky examines the expression "Topes-Topse." Charles T. Fritsch's *The Anti-Anthropomorphisms of the Greek Pentateuch*, published by the Princeton University Press, is, in spite of its limitations, a useful contribution to the study of the textual history of the Old Testament.

JUDAISM

The Sa'adya Gaon celebration, mentioned last year, was the occasion of yet two more volumes of studies: one, the *Saadia Anniversary Volume; Texts and Studies,* edited by Boaz Cohen, was published by the American Academy for Jewish Research, and the other, *Rab Saadia Gaon: Studies in his Honour,* edited by Louis Finkelstein, includes the papers read at the celebrations held in New York and Chicago under the auspices of the Jewish Theological Seminary. The life and work of another worthy, Isaac ben Sheshet Perfet, one of the most famous jurists among the Rabbis of Spain in the XIVth century, is the subject of a monograph by Abraham M. Hershman. Since Perfet was active in North Africa as well as in Spain, the account is of unusual interest as shedding much light on the conditions of Jewish life at that time in both these areas.

The concluding parts of the late Paul Romanoff's article on "Jewish Symbols on ancient Jewish Coins" has appeared (*JQR* XXXIV pp. 299-320 and 425-440), and in the same journal (XXXIV Nos. 3 and 4 and XXXV No. 1), Solomon Zeitlin continues his study of "Judaism as a Religion," of which further installments are yet to come. From the Hebrew Teachers' College at Boston comes a new edition of the Tractate Berakoth from the Palestinian Talmud, with an Introduction to the Palestinian Talmud in general and to this Tractate in particular, by Jacob Neuman, and a translation of the Gemara thereto into modern Hebrew.

Joshua Trachtenberg's *The Devil and the Jews: the Mediaeval Conception of the Jew and its Relation to modern Anti-Semitism,* published by the Yale University Press, is an attempt to trace the history of the conception that the Jew was a child of the devil and a practiser of black arts and sorcery, and the root of all attempts to overthrow established society.

The Roman connections of early Judaism are studied in two articles (*JQR* XXXIV, pp. 267-280, 409-424) by Boaz Cohen on "The Relation of Jewish Law to Roman Law," and (XXXV, pp. 1-57) by Saul Liebermann on "Roman Legal Institutions in Early Rabbinics and the Acta Martyrum." A book of outstanding interest is the *Studies in Jewish History and Booklore,* a selection of

Alexander Marx' essays and papers presented to him on the celebration of his anniversary. Two papers (*HUCA* XVIII), one by Eric Warner on "The Edward Birnbaum Collection of Jewish Music," and one by Franz Landsberger, with illustrations, on "New Studies in early Jewish Artists," ought to be mentioned here.

ARABIC

Yale University has issued a facsimile reproduction of the only known MS of the XIIIth century Sa'd ibn Kammūna's Arabic Treatise on the Immortality of the Soul. G. E. von Grünebaum has an article on the "Origin and Early Development of Arabic Muzdawij Poetry" (*Jnes* III, No. 1), and in No. 4 he discusses the "Concept of Plagiarism in Arabic Theory." Every reader of Arabic literature is familiar with the phenomenon of later writers taking over verses or passages from their predecessors, but here is an account of how the matter was handled by the Arab theorists. The same writer has a study (*Jaos* LXIV No. 2), entitled "Some Observations on City Panegyrics in Arabic Prose." Levi della Vida's "Remarks on a recent edition of Arabic Papyrus Letters," in the same journal, while it deals with the work of a Czech student, Karl Jahn, yet contains a great deal that is of interest to all students of Arabic private letters from the early Islamic period. W. H. Worrell, remarking that of all the contributions of the "Arabs" to our scientific heritage, the most important is that in the field of mathematics, takes up the question of "The Terminology of Arabic Goniometrical Works," giving excellent tables and diagrams to illustrate (*Jnes* III No. 2). Wolf Leslau's review of Ettore Rossi's *L'Arabo parlato a San'a* (*Jaos* LXIV No. 2) may be mentioned here, as his extensive notes make information on this dialect available to students to whom the study of Rossi is not accessible.

EGYPTOLOGY

In "Stacte in Egyptian Antiquity" (*Jaos* LXIII No. 4), Robert A. Steuer discusses the evidence for interpreting the *ntjw* trees on the Punt reliefs as myrrh trees and the source of the fragrant oil the Greeks called *stacte.* John A. Wilson deals with the "Funeral Services of the Egyptian Old Kingdom" (*Jnes* III No. 4), with illustrations from the tombs of the IVth, Vth and VIth Dynasties, showing details of such funerary cult services. From the Brooklyn Museum comes a very useful little book *Late Egyptian and Coptic Art: an Introduction to the Collections in the Brooklyn Museum* the introduction being by John D. Cooney, and from the same Museum a brochure by Elizabeth Riefstahl on *Toilet Articles from Ancient Egypt.*

LINGUISTICS*

By George S. Lane
Professor, University of North Carolina

THE LINGUISTIC INSTITUTE

The Linguistic Institute was held again at the University of Wisconsin, at Madison, June 24-Aug. 18. Visiting instructors were Julian H. Bonfante (Princeton) for Romance languages and Dialect Geography, Carl D. Buck (Chicago, Emeritus) for Comparative Grammar and General Linguistics, J. M. Cowan (Iowa) for Phonetics, Albrecht Goetze (Yale) for Semitic and Hittite, H. Hoijer (California) for Field Methods and American Indian Languages. Again this year, as also last (see The American Year Book for 1943 p. 901), considerable stress was laid upon linguistic field methods and the techniques of describing unrecorded languages.

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* Abbreviations used in this article: AJPh. *American Journal of Philology;* Cl. Ph. *Classical Philology;* Gmc. Rev. *Germanic Review;* JAOS *Journal of the American Oriental Society;* JEGPh. *Journal of English and Germanic Philology;* Lang. *Language, Journal of the Linguistic Society of America;* MLN *Modern Language Notes;* Scand. Stud. *Scandinavian Studies;* TAPA *Transactions of the American Philological Association.*

INTENSIVE LANGUAGE PROGRAM

While the Intensive Language Program of the American Council of Learned Societies has practically ceased to exist as an independent project, its work has been continued by various army education services and by the universities themselves. For example, the intensive language instruction in the Area and Language Curriculum of the Army Specialized Training Program (ASTP) was a direct outgrowth of the American Council's efforts in this regard, as developed and directed by Mortimer Graves and J. M. Cowan (see The American Year Book for 1942, p. 901, and 1943, p. 900f.). Unfortunately, these programs were curtailed in March 1944 with the abrupt withdrawal of the men in uniform from the universities for active duty. Whatever reasons the military authorities may have had for this action, the result was that rigorous programs with definite goals to be reached at specified times had suddenly to be abandoned, and the effect was demoralizing upon the soldier and disillusioning upon the faculty members engaged in the instruction. This action tended to increase the suspicion of the academic world as regards the wisdom of military decisions in general. For here was a program, involving only a few thousand men which seemed to present the greatest possibilities of service to humanity in the immediate post-war period, but which was discarded, ostensibly because the men were needed in other branches of the armed services. Thus, not only was the project abandoned, but the entire effort up to that time seemed to have been in vain.

However, some good may accrue to language teaching from the experience gained by the universities engaged in such enterprises. In fact, a considerable amount of discussion has already taken place in an attempt to evaluate these experiences and apply whatever good there is in them to post-war language instruction. In this regard, attention should be called to articles appearing in the *German Quarterly* (Vol. XVII): Curtis D. Vail, "The Rockefeller Language Conference" (pp. 120-130); A. D. Klarmann, "The Challenge of the Army" (pp. 67-71); T. O. Brandt, "War and Languages" (pp. 72-78); A. B. Faust, "A Wartime Trend in Language Teaching" (p. 93). The impact of such intensive programs upon the instruction in "dead" languages is reflected by G. M. Bolling's comments in "Acceleration of Language Teaching and the Classics" (*Cl. Ph.* XXXIX, 101-106), which serves also as an answer to J. Whatmough's critical review of Bloch and Trager's *Outline of Linguistic Analysis* (see The American Year Book for 1943, p. 901).

GENERAL PUBLICATIONS

Some new publications are to be welcomed. *Studies in Linguistics,* established already in the spring of 1942, has continued, under the editorship of G. L. Trager, to appear in mimeographed form. The contributions have for the most part been confined to phonetic and phonemic studies of modern languages of diverse affinities. Likewise in mimeograph appeared in the fall of 1943 the first issue of the *Bulletin du Cercle Linguistique de New York,* which has the avowed purpose of keeping alive in exile the spirit of the Société de Linguistique de Paris. No mention is made as to whether or not its publication will now cease in view of events in France. Several items which have appeared in the first number of the *Bulletin* deserve mention here: J. H. Bonfante, "L'Evolution linguistique et le développement de la mentalité humaine" (pp. 3-4); Roman Jakobson, "Franz Boas, Linguiste" (p. 9); George Herzog, "Boas' Contribution to the Study of the American Indian Languages" (p. 10); Margaret Schlauch, "Present Tendencies in Semantic Studies" (pp. 12-14). The last named is an evaluation of the new

"School of Semantics" from a linguistic point of view, as it is represented by Korzybski's *Science and Sanity* and Carnap's, *Introduction to Semantics*. The notes on the discussion following at this sitting of the *Cercle* are valuable.

The Indo-Europeanist will likewise welcome the news that the great organ of the "Boas School," *The International Journal of American Linguistics,* is to resume publication under the editorship of C. F. Voegelin of Indiana University.

K. L. Pike's monograph, *Phonetics, a Critical Analysis of Phonetic Theory and a Technic for the Practical Description of Sounds* University of Michigan Publications in *Language and Literature,* Vol. XXI, Ann Arbor, 1943) is an extremely valuable contribution. Its treatment of "marginal" sounds, ordinarily ignored by phoneticians, is particularly new. A review by G. L. Trager will be found in *JEGPh.* (XLIII, 101-2), and another by H. M. Hoenigswald in *JAOS* (64. 151-5).

Conventional, popular opinions about language and characteristic reactions in discussions of language are treated by L. Bloomfield in "Secondary and Tertiary Responses to Language" (*Lang.* 20. 45-55). H. V. Velten gives us a contribution to the manner of language acquisition on the part of children in "The Growth of Phonemic and Lexical Patterns in Infant Language" (*Lang.* 19. 281-292). More particularly for the Indo-Europeanist are the articles by E. H. Sturtevant, "The Indo-European Reduced Vowel of the e-Series" (*Lang.* 19. 293-312), and by J. Whatmough, "Root and Base in Indo-European" ("Harvard Studies" in *Cl. Ph.* LIV, 1-23). In the former Professor Sturtevant presents the arguments which he considers cogent for the assumption of "schwa-secundum." This is, in a way, an answer to Edgerton's denial of its existence in *Lang.* (19. 83-124) and elsewhere (cf. THE AMERICAN YEAR BOOK for 1944, p. 902). In the latter article, Professor Whatmough attempts a criticism of recent theories of Indo-European root-formation and phonology, especially van Langenhove, *Essai de linguistique indo-européenne,* Benveniste, *Origines de la formation des mots en indo-européen,* and of Sturtevant's laryngeal hypothesis (the latter scholar's *Indo-Hittite Laryngeals,* cf. THE AMERICAN YEAR BOOK for 1943, p. 902, appeared too late for treatment by Whatmough here).

Of interest to the general linguist is R. A. Hall's "Chinese and Pidgin English Grammar and Texts" in *JAOS* (64. 95-113). This forms a companion study to his earlier *Melanesian Pidgin English Grammar and Vocabulary* (Baltimore, 1942).

GREEK, LATIN, CELTIC

A phase of late Greek syntax is treated by Sister Rose de Lima Henry in her Catholic University dissertation, *The Late Greek Optative and its Use in the Writings of Gregory Nazianzen* (Washington, 1943). A review by Whatmough will be found in *Classical Philology* (XXXIX, 200-1). J. Bonfante, "Psilosis Again" (*Lang.* 20. 89), answers certain criticisms of the author's earlier suggestions in the *Revue Belge* (18. 390). A problem of Greek and Latin pronunciation is treated by R. L. Ward in "Afterthoughts on *g* as *η* in Latin and Greek" (*Lang.* 20. 73-7). Fritz Metzger in "Latin Uxor" (*AJPh.* LXV, 170-1) suggests a new etymological interpretation. Miss E. A. Hahn, in "Voice of Non-Finite Verb Forms in Latin and English" (*TAPA* LXXIV, p. 269-306), by departing from the fact that the Hittite non-finite verb forms are voiceless, attempts to show that traces of the same situation exist in the two languages under observation, especially with reference to the Latin gerund and gerundive.

A welcome survey of a controversial subject is Myles Dillon's "Italic and Celtic" (*AJPh.* LXV, 124-34), where the author attempts not only to reaffirm the theory of Italo-Celtic unity, but also wishes to re-evaluate Walde's view of a Latin-Goidilic versus a Sabellic-Brittanic dialectal grouping. For Continental Celtic we have L. H. Gray's paper "Mutation (Aspiration and Lenation) in Gaulish" reported in the *Bull. du Cercle Ling. de New York* (I, 18-20 cf. above).

HITTITE, IRANIAN, SLAVIC

E. H. Sturtevant's *Indo-Hittite Laryngeals* (see THE AMERICAN YEAR BOOK for 1943, p. 902) is the subject of two critical reviews. J. Bonfante (*Cl. Ph.* XXXIX, 51-7) completely rejects the laryngeal hypothesis. E. H. Sehrt in "Notes on Sturtevant's Indo-Hittite Laryngeals" (*Lang.* 20. 88-9) makes several corrections of the Germanic materials used by the author. In Iranian, R. G. Kent continues his studies with "The Old Persian Relative and Article" (*Lang.* 20. 1-10), a discussion of the etymology of *hya, hyā, tya,* functioning as both relative and article. In Slavic we have the article by K. Menges on "Altaic Loanwords in Slavonic" (*Lang.* 20. 66-72).

GERMANIC

For general Germanic, the article by E. A. Philippson, "Der germanische Mütter- und Matronenkult am Niederrhein" (*Gmc. Rev.* XIX, 81-142) is of interest because of interpretations of proper names offered. In "The Order of the Pre-Germanic Consonant Changes" (*JEGPh.* XLIII, 42-8), H. V. Velten attempts to apply phonemic criteria (Troubetskoy's *Korrelationsbündel,* Jakobson's *solidarité irréversible*) in order to determine the relative chronology of the different parts of the Germanic sound shift. W. P. Lehmann, in "The Germanic Weak Preterite Endings" (*Lang.* 19. 313-319) departs from the Indo-European second aorist.

In Norse we have a valuable lexical contribution by Stefán Einarsson, "Terms of Direction in Old Icelandic" (*JEGPh.* XLIII, 265, 284), and A. M. Sturtevant has continued his studies with "Regarding the Prefix *ý* in Old Norse *ý-miss* 'vicissem'" (*MLN* LIX, 175 f.), "Notes on Words in the Elder Edda" (*Scand. Stud.* 17. 282-289) and "Old Norse Philological Notes" (*Ibid.* 18. 61-70). Robert J. Menner offers a new etymology for *(ge)strynd* and a new interpretation of *gullisc* in "Two Old English Words" (*MLN* LIX, 106-12).

PERIODICAL PUBLICATIONS

American Bookman
15 E. 40th Street, New York City.
American Historical Review
8 N. 6th Street, Richmond, Va.
American Literature
Duke University Press, Durham, N. C.
American Scholar
12 E. 44th Street, New York City.
American Speech
Columbia University Press, New York City.
Atlantic Monthly
8 Arlington Street, Boston.
Books Abroad
University of Oklahoma Press, Norrow, Okla.
Catholic Historical Review
Catholic University Press, Washington, D. C.
Classical Journal
Washington University, St. Louis, Mo.
Classical Philology
5750 Ellis Ave., Chicago.
Classical Weekly
4200 Fifth Ave., Pittsburgh, Pa.
Commonweal, The
386 Fourth Ave., New York City.
Editor and Publisher
1475 Broadway, New York City.
English Literary History
Johns Hopkins Press, Baltimore, Md.
Germanic Review
Columbia University Press, New York City.
Harper's Magazine
49 East 33rd Street, New York City.
Harvard Graduates Magazine
Harvard University, Cambridge, Mass.
Harvard Studies in Classical Philology
Harvard University, Cambridge, Mass.

Journal of American Oriental Society
329 Sterling Memorial Library, New Haven, Conn.

Journal of English and German Philology
University of Illinois, Urbana, Ill.

Journal of the History of Ideas
New York City College, Convent Ave., & 139th Street, New York City.

Journal of Modern History
5750 Ellis Ave., Chicago.

Journal of Negro History
1538 9th Street N.W., Washington, D. C.

Journal of Southern History
Louisiana State University, Baton Rouge, La.

Kenyon Review
Kenyon College, Gamber, O.

Language
Mount Royal & Guilford Aves., Baltimore, Md.

Library Journal
62 W. 45th Street, New York City.

Library Quarterly
5750 Ellis Ave., Chicago.

Mid-America—An Historical Review
Loyola University, Chicago.

Mississippi Valley Historical Review
Lincoln, Neb.

Modern Language Quarterly
Johns Hopkins Press, Baltimore, Md.

Modern Philology
5750 Ellis Ave., Chicago.

Nation, The
55 Fifth Ave., New York City.

New Republic, The
40 East 49th Street, New York City.

New England Quarterly
200 Stevens Hall, Orono, Maine.

Pacific Historical Review
University of California Press, Berkeley, Calif.

Philological Quarterly
State University of Iowa, Iowa City, Ia.

P M L A
Modern Language Association of America, 100 Washington Square E., New York City.

Poet Lore
30 Winchester Street, Boston.

Poetry
232 East Erie Street, Chicago.

Publishers Weekly
62 West 45th Street, New York City.

Romanic Review
Columbia University Press, New York City.

Saturday Review of Literature
25 West 45th Street, New York City.

Sewanee Review
University of the South, Sewanee, Tenn.

South Atlantic Quarterly
Duke University Press, Durham, N. C.

Southwestern Historical Quarterly
Texas State Historical Association, Austin, Tex.

Speculum
Mediaeval Academy of America, 1430 Massachusetts Ave., Cambridge, Mass.

Studies in Philology
University of North Carolina Press, Chapel Hill, N. C.

Travel
116 East 16th Street, New York City.

Virginia Quarterly Review
University of Virginia, Charlottesville, Va.

William & Mary Quarterly
College of William & Mary, Williamsburg, Va.

Yale Literary Magazine
Yale Station, New Haven, Conn.

Yale Review
New Haven, Conn.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

American Academy of Arts and Letters, 633 W. 155th St., New York City.

American Academy of Arts and Sciences, 28 Newbury St., Boston.

American Booksellers Assn., 35 E. 20th St., New York City.

American Council of Learned Societies, 1219 16th St., N.W., Washington, D. C.

American Institute of Graphic Arts, 115 East 40th Street, New York City.

American Library Assn., 520 N. Michigan Ave., Chicago, Ill.

American Newspaper Guild, 63 Park Row, New York City.

American Newspaper Publishers' Assn., 370 Lexington Ave., New York City.

American Philosophical Assn., Wesleyan University, Middletown, Conn.

American Philosophical Society, 104 S. Fifth St., Philadelphia, Pa.

American Society of Composers, Authors and Publishers, 30 Rockefeller Plaza, New York City.

Associated Press, The, 50 Rockefeller Plaza, New York City.

Association of National Advertisers, 285 Madison Ave., New York City.

Bibliographical Society of America, 100 Washington Square, New York City.

Book Publishers Bureau, 347 Fifth Ave., New York City.

Foreign Publicity Service, 77 Bowery, New York City.

National Committee of the United States of America on International and Intellectual Cooperation, 405 West 117th Street, New York City.

National Editorial Assn., 188 W. Randolph St., Chicago, Ill.

National Institute of Arts and Letters, 633 W. 155th St., New York City.

National Publishers' Assn., 232 Madison Ave., New York City.

P.E.N.—American Center, 16 East 96th Street, New York City.

Society of American Archivists, Menasha, Wis.

United Press Assn., 220 E. 42nd St., New York City.

U. S. Publishers Assn., Inc., 386 Fourth Ave., New York City.

AMERICAN LITERATURE

American Dialect Society, Woman's College of the University of North Carolina, Greensboro, N. C.

Authors Guild, 6 E. 39th St., New York City.

Authors League of America, Inc., 6 E. 39th St., New York City.

Catholic Writers Guild of America, 128 W. 71st St., New York City.

National Assn. for American Speech, 1150 Fifth Ave., New York City.

Simplified Spelling Board, Lake Placid Club, Essex County, N. Y.

Walt Whitman Society of America, 377 Anchor Ave., Oceanside, N. Y.

LANGUAGE AND LITERATURE

American Classical League, Vanderbilt University, Nashville, Tenn.

American Oriental Society, 20 Hopkins Place, Baltimore, Md.

American Philological Assn., Swarthmore College, Swarthmore, Pa.

American Speech Correction Association, University of Minnesota, Minneapolis, Minn.

Classical Association of the Middle West and South, Washington University, St. Louis 5, Mo.

Dickens American Fellowship, 570 Lexington Ave., New York City.

International Arts and Letters, 457 West 57th Street, New York City.

Linguistic Society of America, 2019 Lanier Drive, Silver Spring, Md.

Modern Language Assn. of America, 100 Washington Square E., New York City.

Shakespeare Association of America, Inc., 601 West 113 Street, New York City.

HISTORY

American Antiquarian Society, Worcester, Mass.

American Association for State and Local History, Box 6101, Washington, D. C.

American Catholic Historical Association, 1312 Massachusetts Avenue N.W., Washington, D. C.

American Historical Association, Library of Congress Annex Study Room 274, Washington, D. C.

American Society of Church History, 5757 University Avenue, Chicago, Ill.

Hispanic Society of America, 156 Street West of Broadway, New York City.

Mediaeval Academy of America, 1430 Massachusetts Avenue, Cambridge, Mass.

Mississippi Valley Historical Association, University of Minnesota, Minneapolis, Minn.

National Historical Society, 175 Fifth Avenue, New York City.

Southern Historical Association, Louisiana State University, University, La.

DIVISION XXVI

THE ARTS

PAINTING

By Florence S. Berryman
The American Federation of Arts

GENERAL

Activities in the field of painting during 1944 were surprisingly varied and lively, in view of the state of the country, but there was no single outstanding event. A large proportion of exhibitions dealt directly with the war, comprising documentary paintings by artists in various branches of the armed forces, or work closely related to the present or earlier wars. Transportation difficulties increased, with the result that important annuals continued to be invitation shows, offering no opportunities to new artists.

Several significant instances of patronage of art by industry gave a more hopeful outlook for the future of living art. Artists were generous in gifts of their paintings and other work to war bond drives and exhibitions assembled for the benefit of charitable organizations.

With the probability of bombings past, museums and art galleries brought back their treasures which had been sent to secret strongholds for safe-keeping in 1942. Many of these permanent collections were further enriched by gifts, bequests, and purchases of old and modern paintings. Sales of art were numerous, and paintings sold at auction set a number of new records.

PROTECTION AND SALVAGE OF EUROPE'S ART

Italy.—The American Commission for the Protection and Salvage of Artistic and Historic Monuments in Europe, appointed in 1943, was active from the beginning, working through experts with the Anglo-American forces in Europe, as well as through its own officers. As our forces moved through Italy at the end of 1943, and throughout 1944, a "Culture Army" moved closely behind them. It is composed of officers, both British and American, who in civilian life are classical archaeologists, architects, and experts in painting and other fine arts. These men, armed with books, maps and pamphlets fought tirelessly to preserve the art treasures of the countries invaded. As far as possible, this "Culture Army" enlists the services of art experts in the liberated countries. Its three major duties are to prevent damage by Allied armies, to conserve monuments unavoidably damaged, and to recover and protect works of art until they can be returned to their rightful owners.

The Allied Military Government transferred more than 50,000 works of art from Italian palaces in Naples and Caserta, to strongholds especially prepared to safeguard them from enemy action.

England.—England's old masters suffered greatly from bomb damage. For example, a single stick of German bombs dropped in London during the summer, sent hundreds of tons of wrecked buildings down upon a cache of old masterpieces worth more than $1,000,000. Some were rescued by expert workers, from vaults 30 feet deep; but many priceless art treasures dating back to the 14th century, previously stored by collectors, were completely destroyed. Such disasters brought up again the question of exporting art treasures from England in the future. The president of the Board of Trade said no article of furniture more than 75 years old, and no work of art could be exported without a license. It was proposed that Britain's greatest masterpieces should be listed, and should not be allowed to leave the country under any circumstances.

Holland.—During the summer, Dutch art dealers announced a program for recovering art treasures confiscated by the Germans, which followed closely the procedures of the American Commission. The Dutch program, however, has the additional provision that art objects in German museums and galleries should be held as security against "untraceable" Dutch treasures. Germany would be required to permit Dutch experts to search the country for recorded art works taken from Holland; at the end of five years, any such works not found would be redeemed by carrying away from Germany art works of equivalent value.

France.—The best news of the year came from Francis H. Taylor (Metropolitan Museum director) who is head of the American Commission for the Protection and Salvage of Historic Monuments. He and his staff arrived in France shortly after the Germans were driven out, and found France's artistic treasures intact; not a single important painting or sculpture belonging to the French nation was missing. Paintings from the Louvre, Fontainebleau, Versailles, and Chantilly were accounted for. French private collections did not fare so well.

Historic monuments and other large objects impossible to protect, have suffered the greatest destruction, throughout Europe. Its range can be indicated by mention of a few reported losses, such as Caesar's ships in the Museum of Nemi, the cathedral and palaces in Vicenza, and Haakon's Hall, the most important secular building of mediaeval Norway, built in 1261; the last mentioned went down in the great explosion in Bergen harbor.

ART AND AMERICAN SOLDIERS

Many American service men in Italy gave evidence of considerable interest in art, particularly painting. From the time of Rome's liberation, the Sistine Chapel with Michelangelo's frescoes, was the art shrine most sought by G.I.'s, according to a report of *The New York Times'* art correspondent in Italy.

Inspired by requests of Allied troops for permission to visit Rome's art galleries, which were necessarily closed, the Division of Fine Arts, Region IV of the Allied Military Government, organized an exhibition "Masterpieces of European Painting" in the Palazzo Venezia, the first held in liberated Italy. Its 46 paintings were mostly by Italian Renaissance masters, and were among the world's most famous, taken from Italian state galleries: Capitoline, Borghese, Corsini, and Palazzo Venezia in Rome, Milan's Brera, the Venice Academy, and others. The Mayor of Rome, H. E. Prince Doria lent a group of paintings from his own private collection. Proceeds of the show, after meeting expenses, were destined for a fund to further restoration of national monuments in Italy, damaged by war.

A War Veterans' Art Center was organized in the summer by the Museum of Modern Art, New York City, for recreational and pre-vocational training. It proved the importance of art as an aid in the readjustment of men and women discharged from the services, to civilian life. Experimental classes in painting and other arts were so well attended during the summer, that the Museum opened the Center in enlarged quarters in the fall.

Some 200 altar paintings and sculpture produced under auspices of The Citizens' Committee for the Army and Navy, completed by the end of 1943, were in great demand early in the year, by various branches of the services, for religious activities.

SECOND WORLD WAR EXHIBITIONS

"Naval Aviation in the Pacific," comprising 101 paintings by seven artists commissioned by Abbott Laboratories of Chicago, opened at the Metropolitan Museum of Art in January, the first showing on a nationwide circuit. Given to the Navy by Abbott Laboratories, it was the work of Joseph Hirsch, Lawrence Beall Smith, Adolph Dehn, Howard Baer, Don Freeman, Georges Schreiber, and Robert Benney.

The Philadelphia Art Alliance showed in April and May, an exhibition of Occupational Therapy in War and Peace, largest and most comprehensive showing anywhere of work among disabled members of the Army, Navy, and Air Force. Paintings and all other furnishings in a model living room, were the work of occupational therapy patients.

Paintings by George Biddle made from sketches "on the spot" during eight months he spent with American troops in Africa, Sicily, and Italy, on a commission from the War Department and *Life Magazine,* were exhibited at Knoedler Galleries, New York City, in September.

"Paintings of Naval Medicine" opened at the National Gallery of Art, Washington, D. C. in September. Seventy-five were on display from a much larger number, commissioned by Abbott Laboratories and given to the United States Government. They covered training in this country, combat of Navy and Marines, and convalescence, and were done by six artists: Kerr Eby, Joseph Hirsch, David Stone Martin, Irwin Hoffman, Carlos Anderson, and Julian Levi.

The National Gallery showed simultaneously paintings and drawings by Coast Guard Combat Artists, all of whom were in active service, and did their work in leisure intervals.

"Oil in Watercolor," an exhibition of war paintings commissioned from four artists by the Standard Oil of New Jersey, depicted the indispensable role of oil in the present highly mechanized war. It was shown at the Brooklyn Museum in November, and represented artists, Adolph Dehn, Reginald Marsh, Millard Sheets, and David Fredenthal.

Artists of the Army Air Forces were responsible for an exhibition shown at the National Gallery of Art in November. Of approximately 100 paintings, by several artists, 60 were portraits done by Maj. Charles Baskerville, of aces, combat heroes, commanding generals, and other outstanding personalities in all war areas.

OTHER WAR EXHIBITIONS

In addition to the above and many other exhibitions directly related to the present war, a number of distinguished shows dealing with earlier conflicts attracted attention. Foremost was "American Battle Paintings 1776-1918" shown at the National Gallery of Art, Washington, during the summer, and at the Museum of Modern Art, New York, in the fall; it revealed how the picturesqueness of early battles disappeared in the mechanized 20th century.

"Twelve Celebrities of World War I" was an unusual exhibition of portraits at the Arthur U. Newton Galleries, New York City. They had been commissioned more than a quarter century ago by Christoffer Hannevig, Norwegian shipbuilder, who made a fortune in the United States and undertook to finance 25 portraits of outstanding Americans in the First World War, as a nucleus for a national portrait gallery, with a duplicate set to be given to his native Norway. The sudden loss of his fortune ended the project.

"Portraits of Warriors 1776-1944," an engrossing exhibition in December at Portraits Inc., New York City, included likenesses of leading figures in our six national wars, assembled from museums, clubs, and private collectors.

Twelve paintings by Philip Evergood, reproduced on a calendar by Russian War Relief, Inc., told the story of American-Russian friendship, from 1781 when John Paul Jones became admiral of the Russian fleet, to the meeting at Teheran.

MUSEUM TREASURES RE-HUNG

Museums of the National Capital and of eastern coast cities, which as a precaution against bombings in 1942 had sent their most important paintings into hiding, brought them home in 1944.

The Metropolitan Museum of Art, New York City, had a particularly brilliant reopening on May 28, of its 36 picture galleries completely redecorated. A well-planned installation differed greatly from the former hanging of these galleries. Approximately 600 paintings shown included many important additions. Actually, the Metropolitan had sent 15,000 works of art to the Edward J. Stotesbury estate, outside Flemington, N. J. The two-way move, accomplished without damage, cost the museum nearly $250,000.

New York City Hall's 78 famous portraits, which went to storage with the Metropolitan art, were re-hung early in 1944, as were also the collections of the Brooklyn Museum.

The Boston Museum of Fine Arts opened on May 14 a special exhibition of 20 of its finest paintings at Williams College, Williamstown, Mass., thus identifying the institution which had housed 15,000 of the Boston Museum's outstanding works of art for safety.

Of slightly different character was the Toledo (Ohio) Museum's opening in December, of its most important exhibition in several years—16 masterpieces of painting from the famous Cook collection, England, which had been sent here for safekeeping. None of these works had been shown previously in this country. They include the earliest painting by Lippi and other Italian Renaissance treasures, and superb examples by Velasquez, Clouet, Durer, Holbein, Rubens, Van Dyck, Rembrandt, and Gainsborough.

ART FOR WAR BONDS

A total of $211,000 was realized in war bonds for portraits of four United States service women, painted by Jane Peterson, which were auctioned at the opening of her solo exhibition at the Grand Central Galleries, New York City, on Feb. 8, by Newbold Morris, acting mayor. The highest bidders in war bonds became donors of these paintings to the City Centre of Music and Drama.

Nearly 50 artists of Buffalo, N. Y., during the first two months of 1944, donated paintings to increase the buying of war bonds, which brought about the sale of approximately $1,000,000 worth. The paintings were offered through high schools, cinema theatres, and other institutions and organizations. "Edge of the Orchard" by Arthur Kowalski, offered through the Montefiore Auxiliary 34 of B'nai B'rith, fetched $370,000 worth of war bonds from a single buyer.

Paul Meltzner gave eight portraits he had painted of famous people, to the Fifth War Loan Drive. The collection, valued at $50,000, realized $2,715,000 in bonds. The largest bond purchase, $900,000, was made for a portrait of Albert Einstein.

"PORTRAIT OF AMERICA"

A nationwide competition sponsored by the Pepsi-Cola Company and directed by Artists for Victory fetched 5,000 entries covering subject matter on present-day America. Of these paintings, which came from every state except Wyoming, 150 were chosen for an exhibition of "Portrait of America" shown at the Metropolitan Museum of Art, New York City, after which it was scheduled to visit museums in eight other cities, during 1944-45. A separate jury of awards selected 12 paintings for $11,000 in awards presented by Walter S. Mack, Jr., president of Pepsi-Cola. The 1st prize $2,500 went to Waldo Peirce for "Maine Swimming Hole"; 2nd prize $2,000 to Philip Evergood for "Wheels of Victory"; 3rd prize $1,500 to Louis Bosa for "Sidewalk Market"; 4th prize $1,000 to Joseph De Martini for "Summer Day." These top prize winning paintings became the property of Pepsi-Cola Company, to become the nucleus of a collection of American art destined for the nation. Eight other artists received $500 each for reproduction rights to their works. The 12 paintings were to be reproduced on 500,000 advertisement calendars for 1945. In addition to the purchase prize winners, 14 paintings were acquired by Pepsi-Cola Company, and the public purchased 10, during the first month of the exhibition. Pepsi-Cola Company plans to make the competition an annual event.

BRITANNICA COLLECTION BEGUN

A plan to assemble a notable collection of paintings by 20th century artists was announced in May by E. H. Powell, president of *Encyclopœdia Britannica*. From answers received, to a questionnaire sent to museum directors and artists, a list of leading artists was drawn up, and the Encyclopaedia set out to obtain top-quality paintings by them. About 100 were purchased, many of which will be reproduced in full color in Britannica publications. Other paintings will be added to this nucleus.

MUSEUM ACQUISITIONS: LARGE GIFTS AND BEQUESTS

The National Gallery of Art, Washington, D. C., received from Samuel H. Kress and the Kress Foundation, a new gift of rare Italian art, comprising more than 60 paintings and 26 sculptures, chiefly of the Renaissance period. Among them are "Circe and Her Lovers in a Landscape" by Dossi, "Annunciation" by Fra Filippo Lippi, Botticelli's "Madonna and Child," Raphael's "Bindo Altoviti," a Bellini Madonna, and nine panels illustrating the legend of Cephalus by Luini.

A few months earlier in the year, the National Gallery received from the same source, nine paintings by French masters of the 18th century, which raised it to top place in the United States, for painting of that period. Watteau's "Italian Comedians" is the most valuable single painting; in addition, there are three works each by Fragonard and Boucher, and portraits by Drouais and Greuze.

The California Palace of the Legion of Honor, San Francisco, received one of the largest bequests yet recorded for a Pacific coast museum; the benefactor was the late H. K. S. Williams of New York. For the next 30 years, interest on securities valued at approximately $1,000,000 will be turned over to the Museum for the purchase of paintings, tapestries, and bronzes for the Mildred Anna Williams collection. Subsequently, the principal is to be liquidated within five years and spent in the same way. This collection was given by Mr. Williams in 1940 in memory of his wife; its present value is estimated at $750,000.

The University of California in Los Angeles received from Mr. and Mrs. Walter Conrad Arensberg, their noted collection of 20th century art: paintings, sculpture, and drawings, assembled during the past 26 years. Among the gift's 832 items is Marcel Duchamp's "Nude Descending a Staircase," the sensation of the Armory show of 1913. Mr. Arensberg has retained 421 items, to go to the same institution after his death. The University will build after the war, a modern museum to house the gift.

The Cleveland Museum of Art received by bequest of Mrs. Francis F. Prentiss, who died January 4, 1944, 16 masterpieces of painting, including Holbein's portrait of Sir Bryan Tuke, secretary to Henry VIII, painted in 1526. Other works are from Italian, Dutch, French and British schools. She also left the Cleveland Museum one-fourth of her residuary estate.

The Jules S. Bache collection of 63 paintings and numerous objects of art, which he gave in 1937, along with his home, to the State of New York, to be kept intact, as a public museum, is now destined for the Metropolitan Museum of Art, according to an announcement of the Trustees early in 1944. This occasioned regrets from some quarters, as the Bache collection in its own home on Fifth Avenue, New York City, has an intimate charm not to be found in the elephantine halls of the Metropolitan.

The Toledo (Ohio) Museum acquired an important "Madonna and Child with St. John and Angels" by Francesco Pesellino, which is the earliest 15th century painting in its collection.

The Detroit Institute of Arts purchased "Adoration of the Kings" painted in 1512 by Jacob Cornelisz, Dutch artist.

Young Memorial Museum, San Francisco.—Rubens' collossal "Tribute Money" was acquired by the M. H. De Young Memorial Museum of San Francisco; it is approximately 75 x 57 inches, contains nine life-size figures, was painted in 1612.

The Albright Art Gallery, Buffalo, N. Y. purchased its first important 18th century painting, David's outstanding portrait of Pierre Desmaison, signed and dated 1782: one of the top acquisitions in any period, made by this gallery.

Modern French.—Renoir's "Young Girls at Piano," painted in 1883, was acquired by the Joslyn Memorial in Omaha, Nebraska. "The Call," one of Paul Gauguin's last great paintings, was given to the Cleveland Museum through a gift from Leonard C. Hanna and the Hanna Fund.

The National Academy, New York, added to its permanent collection, its 4th portrait by Samuel F. B. Morse (founder and first president of the Academy) a likeness of Benjamin West; and announced that henceforth, a rotating exhibition of early portraits would occupy its Walnut Room.

The First Presbyterian Church of Charleston, W. Va. acquired Emil Carlsen's "Christ and the Fishermen," for its building erected in 1932, which had a wall especially designed then, for this painting, which the artist's widow refused to sell during her lifetime. Gifts from several members of the Church's congregation of 3,000 made the purchase possible.

Bellows at the National Gallery.—Two paintings by George Bellows, "Both Members of the Club," a prize fight, and a portrait of Mrs. Chester Dale, were presented to the National Gallery of Art by Chester Dale.

Brooks Memorial Art Gallery, Memphis.—Three important paintings by contemporary Americans Hobson Pittman, Jon Corbino, and Joseph DeMartini, were purchased by the Memphis (Tenn.) Park Commission for The Brooks Memorial Art Gallery, owned by the city for 30 years, and lately provided with a plan for an addition to cost $300,000 or more for the growing permanent collection, and further encouragement of interest in the arts.

Whitney Museum. — Museums which purchased paintings by contemporary Americans according to regular programs of acquisition, were too numerous to mention. As an example, the Whitney Museum of American Art, New York City, early in the year made public a list of purchases by living artists between January 1942 and 1944; 20 oil paintings were included, 10 watercolors, and numerous other works.

The Metropolitan Museum of Art accepted 28 paintings from the defunct WPA Art Project, from a selection made by persons connected with the New York and Pennsylvania Projects.

EXHIBITIONS

Pennsylvania Academy. — With transportation facilities worsening instead of improving, there was no surprise that important annuals, formerly open to all artists, continued to be invitation affairs, as was the case in 1943. The 139th annual of the Pennsylvania Academy of Fine Arts, Philadelphia, which opened Jan. 22, was invited by the faculty and jury members. The large representation of Pennsylvania artists, at least one-fifth of the exhibitors having local reputations only, gave the show added interest.

The Virginia Museum opened its 4th Biennial of Contemporary American Painting on March 18. Strictly an invitation affair, it comprised 158 paintings by artists of 25 states, of whom only Virginia artists were required to submit work to a jury. It was a good selection of progressive work. Of 10 paintings recommended by the jury for purchase, the Museum acquired two, by Yasuo Kuniyoshi and Arbit Blatas.

The National Academy.—The 118th annual opened in March. A majority of the exhibitors were well known, but a good proportion of outsiders were represented. Portraits, figures, and landscapes predominated, with a paucity of still life and flowers.

The Chicago International Watercolor Exhibition at the Art Institute during the summer, was renamed the "55th Annual American Exhibition—Watercolors and Drawings." It included work from Colombia, Cuba, Dominican Republic, Ecuador, and Mexico as well as the United States. Three Americans were honored with one-man groups: Jon Corbino, William Fett, and Eugene Berman.

The Carnegie Institute, Pittsburgh, held in place of its famed Founders Day International, another "Painting in the United States." This invited show of 311 paintings, selected by one man, John O'Connor, Jr., acting director, was an outstanding display of contemporary American art. It presented a marked contrast to the disappointing Pepsi-Cola "Portrait of America" selected by nine artists; the Carnegie show was more than twice as large, and about thrice as good.

THEME EXHIBITIONS

Boston.—Several capital exhibitions were assembled around vital ideas. "Religious Art of Today," including paintings, sculpture, and other objects borrowed from churches, schools, galleries, and individual owners, was shown at the Institute of Modern Art, Boston, in January and February. This admirable display was one of the largest of its kind in recent years.

New York.—"Stars of Yesterday and Today," a glamourous exhibition at the Wildenstein Galleries, New York City, in March, comprised portraits of stage, opera, and motion picture stars from the 18th century to the present. Admission was charged for the 1944 Red Cross War Fund Drive; 38 painters and sculptors donated portraits as door prizes—one for every 1,000 tickets sold, and the show realized well over $30,000.

The Cincinnati Art Museum, in April, conjured up the old "International Exhibition of Modern Art of 1913," universally known as "The Armory Show," which introduced the United States to revolutionary art. This original show, in New York, had more than 1,000 items, listed in its catalogue, and the Cincinnati Museum staff worked more than a year, tracing these objects. Although only a small proportion was reassembled (because many of the original works had been destroyed, and owners of others refused to lend them), the revival was sufficient to give an idea of the original.

The Dayton (Ohio) Art Institute opened in April a highly successful exhibition of "Religious Art of Today," on which its staff had worked for a year. Paintings included religious subjects by Picasso and other esthetic radicals, which startled conservative church people, but proved very stimulating to the art world. Art in many other categories was also included. The show had a record-breaking attendance for the community (35,000), which data was used by the Office of War Information abroad, to counteract German propaganda after American bombing of the monastery at Cassino.

Portraits of Children by American Artists, exhibited in November at 460 Park Avenue, New York, included 19th century work by Thomas Hicks, Mary Cassatt, and others, as well as recent and contemporary portraits. It was held for the benefit of the School Art League on its 35th anniversary.

MISCELLANEOUS GROUP SHOWS

The Boston Museum of Fine Arts' "Fifteen Hundred Years of Chinese Painting," the first comprehensive showing of its own collection in this field, filled seven special exhibition galleries, and was adjudged "the most important show of its kind ever held in the U. S. A." The period covered was 2nd to 13th century, Han to Sung dynasties. The dearth of old master painting exhibitions (other than the few above mentioned) was perhaps the most noticeable lack in the exhibition field, and was variously explained: risks of transit, museum preoccupation with other types of shows and rapid turnover of fine paintings in dealers' galleries.

American Portraits by American Artists was a joint exhibition held in the spring at two New York Galleries. Knoedler Galleries covered portraiture from Colonial times to George Bellows (1921), while Portraits Inc. exhibited living subjects by living artists. They presented a total of 69 portraits.

The Museum of Modern Art, New York, opened, on May 23, its 15th anniversary exhibition "Art in Progress" which occupied the entire building and represented the Museum's eight departments of activity. It was largely a loan show, with outstanding paintings by the acknowledged leaders of the 19th and 20th centuries.

Wildenstein Galleries.—Eugene Delacroix' paintings and drawings were seen in an impressive exhibition at Wildenstein Galleries in November, held for the benefit of the Quaker Emergency Service.

The Pierre Matisse Gallery, New York, in December, paid tribute to Paris' famous Salon d'Automne, which was held in the autumn, 1944, signalling the French art world's regained independence, and was called "Salon de la Liberation." The Matisse Gallery's tribute exhibition of paintings and sculpture included work by many artists previously associated with the Salon, who are now exiles, as well as work by others who remained in France during the occupation.

The Hungarian Division of the Red Cross held an exhibition of 60 Hungarian paintings at the Peikin Galleries, New York City, in March, for the benefit of the Red Cross War Fund.

SOLO EXHIBITIONS

Thomas Eakins, now regarded as an American old master, was commemorated on the 100th anniversary year of his birth, with two exhibitions. The first was held at the Philadelphia Museum in April (in his native city) and comprised 130 paintings, drawings, and sculptures drawn from 30 museums, public institutions, and private collections. Nearly half of these belong to the Philadelphia Museum, which was given about 50 of Eakins' works in 1930, by his widow and a friend. Another comprehensive exhibition of Eakins' paintings was held at the Knoedler Galleries, New York City, in May.

Worthington Whittredge, one of the Hudson River School's least known painters (1820-1910) was commemorated with a loan exhibition of his work at the Macbeth Gallery, New York City, in January.

Winslow Homer.—The Whitney Museum of American Art, New York City, had in October an unusual exhibition of paintings and drawings by Winslow Homer, including many works not well known by the public, and drawn largely from sources outside of New York.

Anne Goldthwaite, who died Jan. 29, aged 69, was given a large memorial exhibition of oil and watercolor paintings and graphic arts, at Knoedler Galleries, in October. Assembled from many sources, it was retrospective of her work from 1908 to her death. It will go on tour in 1945.

Marsden Hartley.—The whole career of Marsden Hartley was comprehended in a selection of 100 of his paintings shown at the Museum of Modern Art, New York, in October. It covered about 40 years, up to his death in 1943.

Max Liebermann.—A memorial exhibition of paintings by Max Liebermann, one of Germany's greatest modern artists, was shown in June at the Galerie St. Etienne, New York City. Prior to his death in 1935, his last years were made miserable by Nazi bans on "any artistic activity." The Galerie St. Etienne's catalogue had a foreword by Thomas Mann written for a Liebermann memorial held in Vienna in 1937, but not published then because of political tension.

Charles Burchfield was given a fine retrospective exhibition of 80 of his paintings in watercolor and oil, at the Albright Art Gallery, Buffalo, N. Y., the city's first one-man show by her famous native son. Illustrating his work from 1916 to 1943, it was composed of loans from 40 private collectors and museums throughout the country. One-third of the show was taken over by The American Federation of Arts for a national circuit, and was booked solid to the summer of 1945 before the Federation's catalogue was issued.

Henry G. Keller, 75-year-old Cleveland painter, was honored with a comprehensive one-man retrospective from 1911 to the present, at the Cleveland Museum of Art in March, from which a smaller exhibition was selected and shown at the Kraushaar Galleries, New York, in May.

Abraham Walkowitz.—There were two unusual one-man shows "in reverse." Abraham Walkowitz, 64-year-old Russian-born painter, who has lived in the United States since 1914, invited 125 artists to do his portrait beginning in January, 1943. In February, 1944, an exhibition of 89 paintings and 11 sculptures of him by as many artists, opened at the Brooklyn Museum, which had to omit the remainder for lack of space.

Dikran Kelekian, dealer in ancient arts and well-known in New York, has been a favorite subject of artists for many years. An exhibition of 19 portraits of him, paintings, sculpture, and other media, was shown at Durand-Ruel Gallery in New York, in October.

INTERNATIONAL EXHIBITIONS

England.—A "Good Will Art Exhibition" of 200 paintings, sculptures, and prints by as many living American artists, was assembled by Artists for Victory to tour the British Isles, and shipped in the spring. It was not commended very highly by the New York critics, who considered that it did not represent American art at its best.

An exhibition entitled "American Artists Report the War," sponsored by the War Artists Advisory Committee of Britain and the U. S. Office of War Information, opened early in October at the National Gallery, London. Simultaneously, a large exhibition hung there, of British war art, sponsored by the War, Navy and Air Ministries. Paintings by British War Artists were shown at the National Gallery of Art, Washington, D. C. in May.

United States.—In return for this show, London's Central Institute of Design sent to the United States an exhibition of 152 contemporary British paintings and sculptures, and other media, which opened at the National Academy, New York, early in November. It was predominantly conservative, and received laudatory criticisms.

Brazil.—An exhibition of 100 paintings illustrating various trends in contemporary American art, was taken to Brazil by Miss Emily Francis, director of Contemporary Arts, New York City, on invitation of Mrs. Percival Farquhar of Rio de Janeiro to show it in her home at the height of the Rio season, May and June. From there, the exhibition was invited to the Museum of Fine Arts, Rio, where it was shown with paintings by Brazilian artists; later it went to Sao Paulo for a fortnight.

Cuba.—An exhibition of "Modern Cuban Painters," including 80 paintings by 13 artists, was held at the Museum of Modern Art, New York City in April, then sent on tour. It was the outcome of collaboration between the Museum's director and the Galeria del Prado in Havana.

Canada.—The National Gallery of Canada at Ottawa sent a reportorial exhibition of 63 paintings, pastels, and drawings by men and women of the Canadian Armed Services. It was shown in Washington at the Corcoran Gallery of Art, and later in New York City at the Metropolitan Museum.

W.P.A. ART JUNKED

The Government's Works Progress Administration Art Project was terminated at the end of 1942, after having produced thousands of paintings and other works for government allocation. Early in 1944, a report was made public through a weekly broadcast over Station WEVD, which created a furor. It was revealed that at the end of 1943, the Roberts Book Company on Canal Street, New York, bought from a junk dealer, a ton of canvases in dirty bundles, priced according to weight. Between 1,000 and 2,000 paintings, many by artists of established reputations, had been removed from the stretchers and auctioned as junk from a government warehouse in Flushing, along with old copper and scrap iron, but it was established that, despite the fact that taxpayers had supported the artists who painted these works, government sale of them was legal under existing laws.

ALBRIGHT ART GALLERY SALE

Still another art sale which caused consternation and anger early in 1944, was that of 142 objects from the permanent collection of the Albright Art Gallery, Buffalo, N. Y. These had been disposed of late in 1943, by an agent, through a New York auction house. Prices fetched by a number of works by living American painters were pathetically low—a landscape by Daniel Garber, for example, which cost originally $1,800, went for the highest price in the sale—$80. Dr. Andrew Ritchie, Albright director, said the works were sold because the Gallery's present art committee did not consider them of museum quality. This reversed the opinions of earlier committees, which had purchased them or accepted them as gifts from donors. The controversy raged for a while, spearheaded by the American Artists Professional League in its official organ, *The Art Digest*. The sale was regarded as working a grave injustice to living artists' reputations, as well as to prices of their work, and to donors who paid dealers' prices in the expectation that their gifts would remain in the museum in perpetuity.

AUCTION SALES AND PRICES

Parke-Bernet Galleries, New York City, at the end of the season 1943-44, reported a record-breaking year in several respects. An unprecedented number of buyers (192,000) bought well over $6,000,000 worth of art and literary property, an all-time record not only for Parke-Bernet, but also for their predecessors. A record-breaking number of estates were liquidated; there was also an unusual number of museums which disposed of property through auction. Prices increased between 30 and 50 per cent; in some, several hundred per cent. Sixteen sales of paintings created the greatest interest and rang up the highest totals ($1,335,247). Hals' "Merry Lute Player" fetched $127,000, the highest sum for a single item. Manet's portrait of a little boy, "Le Petit Lange," went for $18,500. Other top prices were: a Persian miniature, $14,000; Corot's "La Grande Metairie" (Museum of Modern Art sale) $20,000, also Cezanne's portrait of Mme. Cezanne, $16,000; from the Potter Palmer sale, two Van Goghs, one at $11,000, the other at $8,250; one Manet at $11,000; two Renoirs, one at $10,000, the other at $9,500. Degas' "Trois Danseuse" fetched $9,500. The one-session sale of the John R. Thompson collection of paintings, including the above-mentioned Hals, realized $262,780.

The new season which began in the autumn, 1944, gave evidence of continuing the high prices of the previous season. Lippi's famous "Madonna della Stella" from the Schinasi collection, fetched $30,000. Good prices were paid for a group of 18th century British and French masters: Romney, "Vernon Children," $22,000 and two portraits of women, $9,500 each; Fragonard, "Mlle. Marie Guimard," $17,000 and "Chevalier de Billaut," $12,000; Boucher, "Messenger of Love," $14,500; Vigee Lebrun, "Fillette aux Cerises," $12,500; Hoppner "Tambourine Girl," $10,000.

One collection sold at the Parke-Bernet Galleries, on April 20, that of Stanley N. Barbee, president of Coca-Cola Bottling Company, Los Angeles, was a sensation because of the prices paid for modern art. It was estimated at around $100,000, and fetched $114,-

000. Darrel Austin's "Tigress" valued at about $800, went for $3,000, one of the highest prices ever paid at auction for a canvas by a young American.

FINAL DISPOSAL OF MORGAN COLLECTION

The remainder of the once fabulous collection of J. Pierpont Morgan was sold at auction at Christie's in London on March 31; it comprised 147 items from the Morgan house near London. Four superb Italian primitives, scenes from the life of St. John the Baptist, by Giovanni di Paolo da Siena, were withdrawn before the sale and purchased for the National Gallery in London, forestalling at least one New York bid of $100,000 for the set. Other highest prices were 5,400 guineas for a small School of Duccio triptych; and 5,200 guineas for Matteo di Siena's "Virgin and Child with Saints John Baptist and Michael," bought by the Birmingham, England, Museum.

SCULPTURE

By Rose V. S. Berry
Art Critic and Writer

GENERAL

The art story of man is the oldest continuous record of the working of his mind. Through successive ages and to the present moment archaeologists are assembling data—things thought out and made by man—that have defied the ravages of time. Through ancient manuscripts historians have preserved the written account of man's attainment. Consequently, the sculptors' gift to his day still exists. Dependent upon the intervening periods of peace, and the character and development of peoples left in power, man's cultural story—often by way of individual contributions—survives.

The process of survival has brought notable changes. Influenced by traditions and religion, by conquests and aggrandizement, by land-locked or sea-going commerce, by ordinary and extraordinary intermingling with foreign peoples, the world's sculpture has been modeled and chiseled. Thus it has come down to these modern days that are of the moment; a time, when above all else, the place filled by science in life and living, has brought new elements into every human expression. To this amazing influence sculpture, the most unyielding and realistic of the arts has bowed.

CHANGES IN THE SCULPTORS' ART

The year 1944 makes it possible to assert, and prove the assertion, that permanent changes have been wrought in the sculptor's thinking and performance. In an exact ratio commensurate with his sympathy toward modeling and carving that liberates form from the clay lump, or rocky volume, or toward the scientific utilization of the finest thread—which, to stand must be elevated, or to have strength of whatever character—one sees the point at which modern sculpture has arrived. Neither of these extremes, the clay mass or the thread, offer the beauty of proportion, of grace, or both in a pose.

The problem for the sculptor who adheres strictly to his ancient mediums—clay, bronze, stones of all kind, and wood—remains the same—an endless search for variety in technique and subject matter. The problem of the ultra-modern sculptor, who turns to a string and the control of his flimsy medium must bring form to his service, and possibly color, while at the same time he literally captures gravity, but, in the nature of permanent space suspension.

The man who remains true to the sculpture of the past will go on in the footsteps of Myron, Polyclitus, Phideas, Praxitiles, Scopas, and Lysippus, the Greek sculptors who brought their art all the way from the wooden log to a flying Victory; to the Egyptians and the Romans who glorified the portrait; to Michelangelo who brought the dignity of gods to the human form; to Baryé, the Frenchman, who discovered the wonders of wild animals embraced in combat; and to Frederic Remington, Charles Russell, the Borglums, and other American sculptors who knew horses as Michelangelo knew a clenched fist, or a bowed back.

The sculptor—the ultra-modern thinker and seer—who is intrigued by *the abstract,* the formless expression which leads one to speculation, philosophical vagaries, and mathematical computations which will involve revolutions, suspensions, and a balanced or unbalanced group of unrelated forms, enters an unchartered sphere of adventure. It includes, in a way, a kind of marriage with architecture. There are some art critics, who consider these mobiles and stabiles as the most alluring examples of new form since the Gothic cathedrals and the American skyscrapers. The question resolves itself into that perplexed one which Pilate asked of the Jerusalem mob: (Whom) what "will ye that I release unto you?"

INFLUENCE OF CALDER

It is to the younger Calder, that credit must go for these startling new compositions. They have been described in this sculpture story before; they merge concealed lines of string, steel wire, and in so nearly as possible invisible lines in a center, or head, with which they are attached to the ceiling; their very nature makes it impossible to place them upon a wall. These pendent chords, or threads, are attached to items, articles, objects, most of them nameless but all of them capable of taking a place in the strange composition. There are curves and angles, sticks, bars, and discs, and spreading surfaces of sharp or shaped edges. In substance they range from paper to iron, from wood to clay.

In the Calder productions there is nothing more realistic than some shape which may resemble a plowshare, and the simplicty or directness, the absence of confusion constitute its first charm. The discovery of the next one—a multiple attraction—reveals the slow movement, from air currents, which plays one form against another, increases the number of varying shapes caused by this interference, and finally, the observer is utterly intrigued by the dignity of the ensemble, and the nothingness of the nothing that attracts and holds his attention.

JOHN HOWARD

Calder has gone much further with this creation, but apparently by making a central, or a single attraction of only one of the forms which may take a place in the mobile, but, San Francisco's sculptor, John Howard, has composed the stabiles and mobiles with increased color contrasts. Thus, the play of light upon the composition is emphasized by the shading and fading of color in the vibrations, always slow, of the tenuous group. In these Howard combinations, one is more conscious of the part played by the suspension of the mobile. This suspension has something of the element of suspense as in Inner Sanctum mysteries, Bulldog Drummond, or any other horror story, only this suspense is more definitely aesthetic. There is no question about it, each artist who attempts this new form of expression, adds to it, and so far has improved it.

DAVID HARE

In New York's Greenwich Village, David Hare exhibited his contribution to the Calder concept. Hare added recognizable form, cynical in some instances, always humorous, and frequently utterly grotesque. In addition to naturalistic form, Hare added plastic materials—clay and composition stuff—to fine wire, and retained the color of the Howards, except that he seemed to attach some sort of symbolism to its use. One of Hare's figures is a great face without features; another is a Toy Ghost; these possess a nervous, jazzed movement, some kind of a shimmy quite other than that of the slow, dignified rotund movement of other mobiles. The most astonishing of the Hare compositions is the figure of a woman, which is six feet tall. She has a three-inch waist, and the feet of a stork, to what extent, or artistic whim, she serves the cause Hare does not explain, but, it appears to be a guffawing gesture due to the absence of real aesthetic appreciation for what Calder, Howard, and other sincere men are seeking in the realm of the abstract.

REFUGEE ARTISTS

The rest of the sculpture story of 1944 differs from that of previous years. It does not partake of the nature of Society and Organization efforts; on the contrary it deals almost entirely with individual production and thought. Feeling this in an unusual degree, the 1944 sculpture story presents the Sculptor himself, as the narrator of the year's achievement.

The United States is becoming hostess to many refugee artists as it was during and after the First World War. Most of these gifted people have much to contribute in the way of personal talent and native ability; often, it is their artistic achievement that has made it necessary to flee their own countries. Several things have befallen all sculptors in common; studios of sufficient size are not to be had; the variety in mediums grows constantly less; priorities together with impossible shipping facilities are insurmountable. Such hindrances bear heavily upon this artistic output and should be taken into serious consideration in the story of sculpture for 1945.

It is interesting to note the character of foreign sculpture which is being offered for sale. Barlach, who has influenced the work of men inclined to develop by way of volume, is offering a Peasant Girl in wood, Revenge and a Fugitive in bronze, and five other well known subjects. Kolbe has several large groups up "for sale." Gerhard Marcks is disposing of 19 bronzes, and Renee Sintenis is selling a group of her appealing small animals. Some of this sculpture has been outlawed by Hitler.

Dario Viberto, an Italian-born French citizen, who has been a refugee in the United States since 1941, had a one-man-show, a collection which apparently has not suffered by curtailed material; his subjects are in mahogany, marble, and bronze. They are notable mostly for uniform finish and graceful rhythms.

Turka Trajan, the Hungarian-born sculptor, exhibited with the Valentine Galleries. His sculpture, done in cement, was unusual in that he used color which, with polychrome effect, lent a mystic symbolism to the work. Outstanding were Marriage of Earth and Fire and the figures of Isis and Young David.

Suzanne Nicolas, a Belgian sculptor, showed her work at the Colony Studio. Like many trained in Europe, she is versatile in the use of several mediums. A Belgian influence permeates her sculpture of an almost inherent religious quality; in addition to this she carries over the spirit of the 15th century in the work she does in wood. Her skill is quite mature, and she has executed commissions in Belgium, Holland, and America.

INDIVIDUAL APPRAISALS

Mary Callery chose the Buchholz Gallery for her exhibition. After ten years' residence in Paris, where she worked diligently, her return to New York, her native city, is attracting deserved attention. She wrestles with real problems—movement and violent action rather than grace. In her subject matter she secures that which she seeks, she models the figures with sufficient tenuosity to move with convincing fleetness, avoiding at the same time a confusion she might readily produce with Acrobats, and Circus Riders. Her portraits establish another skill, which she varies again in the palpable mass of an alligator.

Mitzi Solomon, made her one-man-show debut with 13 pieces of sculpture at the American British Art Center. For some time past her work has been attracting attention. A collection is the severe test of individual talent; whatever weakness exists is revealed when several subjects may be studied by comparison. The breath of subject matter and craftsmanship in this exhibition places Miss Solomon among those from whom much may be expected.

Nat Werner's exhibition at the A.C.A. Gallery presented another phase of modern achievement, emphasizing the change brought to all sculptors by war conditions. Werner teaches fine arts, mechanical drawing, and shop technique at Midwood High School, Brooklyn. He was commissioned to do three groups of ornamental sculpture for the Court of Peace, at the New York World's Fair. His one-man-show, however, introduces him as a genre craftsman using bulky volumes imbued with humor and life. He has been associated with several other sculptors as artists supporting, or establishing, an American trend—that of a genre character—but, since the Rogers' groups, that has been an element in American sculpture, embracing the chief national characteristic of the native artist—a humorous narrative of daily events, the life-story of the people. Nevertheless, these new men are doing it differently, depending upon the length of one's memory, and the exhibitions of past years that can be recalled.

Aaron Goodelman, born in Russia, now lives in New York. Until recently he taught in City College, but with the coming of the war, and the need of war-production, he has worked as a tool and die-maker in a defense plant. His small subjects can do, what larger ones may not; they spread in a surrounding frame, giving the same straddle to the human figure; they are not particularly pleasing but they are convincing. As defiance in the way of unity, or massed centralization, they may make a place for themselves. His Boltcatcher, 15 inches high, of bronze and polished brass, was purchased by a collector at the Chicago Art Institute's Exhibition.

John Hovannes, another of this genre company, does not like "pedestal sculpture." He "merges the figure with the environment," even as Aaron Goodelman attaches his figures to the architectural setting. The inconsistency of Hovannes' preference is displayed in his group of Stevedores, which he visualizes as attached to a window-pane so that they are seen with a natural background of air and light. The under-support, however, is a crumpled, bulging, waved column of moving water or air-bubbles done in plaster, or clay, which rests upon a pedestal and rises to support a flattened horizontal surface, in turn forming the base for the inclined gang-way leading from the dock to the ship. Instead of one pedestal, there are virtually four. As for the subject matter, one recalls those of Mahonri Young exhibited 20 years ago.

Milton Hebald, before going into defense work at the Atlas Foundry in Brooklyn, where he casts and molds full-size model airplane parts, taught at Essex Junior College. He finds the smooth efficient shapes of these technical objects "wonderful." The sculpture which he is producing emphasises the globular aspect of the human body with its curves and spherical sections—shoulders, breasts, abdomen, and hips. Facial features, details of fingers, toes, and finer points do not exist.

Harry Wickey, aged 49, had achieved national recognition as an etcher before he turned to sculpture six years ago, when his eyesight became impaired from etching acids. In looking at his small bronzes, one is impressed with their likeness, in theme and treatment, to the work of the famous German, Barlach, but, when the faulty-seeing is taken into consideration, one is almost assured that the large volumes, lacking in the finer details, satisfy the artist's demand and are easily met by clever fingers. There is more realism, drama, humor, and human relationship included in Wickey's figures than in those of the others mentioned in this group, each of whom has stepped out to demonstrate a new artistic highway.

JO DAVIDSON

Among other artists, forced home by war conditions, is the gifted Jo Davidson. When a retrospective exhibition of his work is shown, as some day it certainly will be, the collection will contain a Davidson likeness of many famous world figures. Philadelphia's Art Alliance invited a special exhibition of this sculptor's most recent work. No assemblage of Davidson sculpture could be without significance. His portrait of Dikran Kelekian was also included among 19 examples of modern portraiture assembled by Durand-Ruel, honoring Kelekian. Davidson's outstanding portrait, however, was that of Gen. Charles de Gaulle, captured at a one-hour sitting. This green bronze likeness of the renowned Frenchman was exhibited with French Underground bulletins and documentary material.

JOSÉ DE CREEFT

José de Creeft's annual exhibition constitutes a marvel of one-man achievement which, no matter how many pieces involved or how many mediums used, never falls below his standard which is always high. Creeft was born of Catalan parents, with some Flemish ancestry, in Guadalajara, Spain. He became an apprentice in a bronze foundry, when he was 12. At the age of 14 he had decided to become a sculptor. Living with his family, at the time in Madrid, he had the world's greatest collection of masterpieces in the Prado, for study, and he has never let his source down.

Creeft works in all mediums, and when for the moment he may have exhausted what he has on hand he invents and combines available materials. It is doubtful if anything more amusing than his jovial Picador has come from a sculptor's studio in years. The Picador's body is composed of stove-pipe joints and elbows. The horse's body seems to be a corrugated ash-can; its neck might be coal oil cans, its head coal-skuttles set mouth to mouth, with the rimmed bottom for the horse's lips. The horse's legs are joints of stove-pipe with elbow-pipe feet that would necessitate a locomotion somewhere between an interrupted hop and a quivering crawl. With such a composition at one extreme, to do justice to this Spanish-American artist one must reckon with the greatness of the distance of his range of expressed subject matter and Belgian granite, green stone, white marble, English limestone, and serpentine, from which José de Creeft seems to liberate imprisoned figures. After these mediums comes beaten lead, which must be compared in two heads; one, an elongated tapering skull with an open-mouthed absence of mentality; the second, called Himalaya, though its expression is so benign that one could pray to it as a Christ.

MAX KALISH

Max Kalish, born in Poland, but known for his excellent sculpture for 20 years in American exhibitions and his fulfilled commissions, has this year out-done all ordinary tasks that come to sculptors. His previous work has been most serious. He was among the sculptors who found new interest in the American working man subjects, some years ago. These he portrayed with sympathetic understanding far removed from sentimentality. In this period in his creative work, it was not surprising when the whole theme seemed to culminate in a superb Crucifixion.

The year 1945 will see Max Kalish in an entirely different rôle. The idea was sponsored by Willard Monroe Kiplinger, the man whose letters acquaint one group of Americans with what goes on in Washington, and whose excellent book, *Washington Is Like That,* recently enlightened the American reading public on the Nation's capital. Kiplinger has determined that Washington should stand revealed in another way, and he has commissioned Kalish, the sculptor, to do the work and put into bronze-portraits 50 men who have become prominent in the disturbed life of today.

The artist limited the time for these poses with his busy subjects to one hour per portrait. The small statues are to be two feet in height. They were to have been finished by late fall. Unless the layman has witnessed something of the intense concentration which an artist exercises in such work, he can have no idea of the demand upon the artist's nervous system. Kalish not only concentrated, he whipped some of the desired portrait-material into a willingness to pose, and lost pounds of avoirdupois in the struggle. Secretary Morgenthau dreaded becoming a bargain-counter purchase. Henry A. Wallace caused trouble by a persistent inclination to fall apart at the waist line. Secretary Ickes, needless to say, developed a whole set of new idiosyncrasies. Under Secretary of War, Robert Patterson, well known for the absence of trouser-creases, is said to have had trial-moments with creases; now you see them, now you don't see them, which ended in no creases, a Kalish decision. In fact there was no time for any kind of a prima donna pose; instead it was a matter of "at ease," or "as you were."

Among the men who sat for their portraits were: Chief Justice Harlan F. Stone, Gen. George Marshall, Attorney General Francis Biddle, Secretary of State Cordell Hull, Secretary of War Henry L. Stimson, Walter Lippmann, John L. Lewis and Donald Nelson. Kalish lost General Arnold who did not have even an hour to spare before flying to the European front. The President had two half-hour sittings. Kalish discovered that Roosevelt does not wear a waistcoat. He did not include the long, slender cigarette holder which was offered. Kalish took only the modeled body of the President's portrait back to New York, the head was to be done from memory aided by composite photographs. Eighteen of the bronzes were ready for delivery to the Smithsonian Institution at the last report.

CYRUS E. DALLIN

In 1944, came the death of the venerable sculptor, Cyrus E. Dallin, at his home in Arlington Heights, Mass. Born in 1861, in Springville, Utah, Dallin had reached the age of 83. Though he had spent many years in Massachusetts, the residents of Springville have made his birthplace an art center, in his honor, and their annual exhibitions catalogue the very best of American painting and sculpture. To these activities Dallin, along with his confreres the late Gutzon and Solon Borglum, always subscribed. Dallin's years were spent in faithful service to his art. Fellow sculptors had awarded him the honors owing to a good artist, and had taken him into the societies and associations of Philadelphia, New York, Chicago, and Boston, and into the National Academy and National Sculpture Society, as well as The Royal Society of Artists, in London.

The spirit of Dallin's work revealed his own temperament, which was deeply sincere and consistently kind. The marble portrait of his aged mother is his splendid tribute to that revered human relationship. His craftsmanship was evident in portraying the individual likeness of the Indian, too seldom presented these days. In number and importance, Dallin's bronze portraits constitute a Who's Who of America's Indian nobility of the last half century. Somewhere in that shrine which this country owes its Indians, these likenesses should have a permanent place. Dallin's equestrian statues always reproduce the thin, well-muscled horse of the plains. Free of trappings, the horse is as much the desert steed as the breech-clouted rider who sits astride him is the desert's son. As commissions fulfilled these are suitably placed: The Scout, in Kansas City, Missouri; The Signal of Peace, in Chicago; The Medicine Man, in Fairmont Park, Philadelphia, and The Appeal to the Great Spirit, in Boston.

ARCHITECTURE

By Nathaniel Cortlandt Curtis
School of Architecture, Tulane University

GENERAL

Throughout the year, architects, while they had good opportunities to exercise ingenuity, had little opportunity otherwise to make use of their talents. Ingenuity applied to planning, construction and the use of materials may or may not be a good thing. The architect generally prefers to be simple and direct in coordinating the elements of building, and at the same time to be free and unrestrained in the choice of appropriate materials, but restrictions in materials—hence of types of structural frameworks—continued to prevail. The choice of materials was strictly limited; the most essential materials had high priorities and only small amounts could be released for any project not closely tied in with the war effort. By the middle of the year, wood, which had been the most used material for ordinary projects the year before, had also become very scarce, and because, in this instance, replacement depends upon Nature, upon slow processes of natural reproduction, it is inevitable that the scarcity will hardly grow less until after the lapse of many years.

PANEL SYSTEMS

The ingenuity of man has been brought into play to provide substitutes for the once plentiful sawn timber and boards. Panel boards, built up of many plies and of many types technically standardized, having valuable properties in themselves, are now familiar products. Thus, wholly new elements of building are provided which, when applied to the enclosure of space, suggest new methods of assembly that have already brought about new aspects of architecture in many instances better adapted than the old. The following usages, all of which have the effect of conserving lumber, should be noted: use of proved methods of construction, to conserve use of lumber, instead of conventional frame construction; use of truss roof construction, permitting studless gyp-plaster partitions; greater use of wall boards, insulating boards and prefabricated window, door, and blank wall panels; first floor directly on the grade; a standard Kitchen-Bath unit plan, with fixtures back-to-back on one partition—bath over kitchen in two-story types.

PREFABRICATION

Factory-made materials and the economies incident to manufacturing processes have the effect of suggesting and lending stimulus to prefabrication procedures in the larger elements of buildings, even of buildings in their entirety, and thus a progressive growth in the prefabrication idea is to be expected, as well as a correspondingly wider acceptance of any products that may be offered. Until now prefabrication has been almost exclusively applied to housing, but there is no reason why attempts will not be made to systematize the production of larger types of buildings, especially types which normally lend themselves to ground-level or at most two-story design (rural schools, rural health centers, community and shopping centers, etc.). As more and more mass-produced houses have been manufactured and assembled on sites, the need for greater flexibility and variety of design becomes apparent. The desire for individuality in the appearance of the home is a basic American trait which should be fostered in the interests of democracy and personal freedom of choice. This demand has not been very well served up to now by the prefabricators or their architectural advisers. It is incumbent upon them to discover the point at which maximum standardization consistent with design objectives can best be served without requiring the American public to revolutionize its long established preferences. Architectural talent has gone about as far as it can go in devising good plans for small single and double houses and adapting these plans to modular units, jigs, and mass production. How to achieve charm and variety in external appearance remains an important objective.

SITE PLANNING

If the small mass produced house is monotonous and repetitious in design, strides have been made, on the other hand, in the avoidance of monotony in the grouping of houses on sites. Nearly all site plans for housing developments were better laid out during the year and there was more consideration given to natural surroundings and terrain, as well as more thought to the advantages of good landscaping.

GROUND LEVEL TYPES OF BUILDINGS PREVAIL

Priorities and material restrictions have had the effect of limiting design to ground-level building. Obviously this is because multi-storied buildings of any importance need to be fireproof and certain essential materials—steel rods, for example—required for the construction of higher buildings have been unavailable. One, or at most two-storied buildings, can be well constructed of brick, cinder concrete, or terra cotta building tile—materials having low priorities, or of wood framing. Much skill has been shown by certain architects in developing modern types of horizontally extended buildings, among which may be cited community buildings, schools, hospitals, health centers, administration buildings and the like, but when the emergency is over, architects will no doubt gladly turn again to the creation of multi-storied buildings whenever such types can best serve. The American architect during the present interim looks with admiration toward the accomplishments of the Brazilian architects, and will endeavor to do as well when the time comes, but in the interim they have gone way ahead of us. The achievements of the Brazilians have been truly amazing. It is enough to point to the building for the Ministry of Education and Health, Rio Janeiro, begun in 1937 and still under construction, among other examples of outstanding modern work of striking originality and appropriateness.

DEMAND FOR SPECIFIC BUILDING TYPES

The war has intensified the need for a general expansion of hospital facilities throughout the nation. This growing need for expansion, particularly in urban areas, has quite understandably been subordinated to the needs of war-industrial areas where health centers having local health departments as well as clinical and diagnostic facilities have been constructed in all instances where a shortage is indicated. Through the provisions of the Lanham Act, administered by the Federal Works Agency, some of the most urgent needs of urban communities have been met, but the expectation of an increasing demand for hospital services points to the desirability of a greatly expanded program of new buildings in many more communities which are at present inadequately served. Because of the ban on reinforcing steel, multi-storied reinforced concrete hospital construction has, in most instances, given place to one-story pavilion types employing a minimum of critical materials.

Airports, landing fields and administration buildings are types of projects for which there is a universal demand. However, because so many of the basic elements of airport design are indeterminate at the present stage of development of this form of traffic, the actual planning and construction of the numerous airports that will be needed at the close of hostilities is in a fluid state, and many vital questions remain unanswered. So-called standards are of doubtful authority and have been questioned. Thus the so-called standard design of aerodrome (runway pattern, terminal buildings in relation to master plan—in relation to use, etc.), which is the type generally adopted, has been shown to have a number of faults which some other pattern would tend to eliminate. Many authorities believe that the entry and departure of international planes would encumber domestic traffic if the one field were used. They advocate special international airports distinct from those used by the domestic lines. Unquestionably architects who may be employed to design administration and other buildings in connection with airports will also assist in arriving at the ideal master plan which some future airport will demonstrate.

POST-WAR PLANNING

The listing of projects recommended to be undertaken at the war's end has been a major activity of many planning committees organized in communities throughout the nation. Some found means to develop projects beyond the mere formulation of them, and in numerous instances actual plans and specifications for buildings and other types of public works of a more general character have been carried forward and the plans filed. Moreover, there has been a great deal of consideration given to the more comprehensive aspects of town and city planning. Thus about the middle of the year it was reported that city planning commissions, cooperating with other assisting agencies in as many as 60 per cent of all United States cities over 25,000 population, have been engaged in preparing plans for civic improvements on a comprehensive scale. These have taken the form of investigations of traffic problems, slum clearance, extension of municipal services, parks and playgrounds and neighborhood centers, and the studies have been publicized through well arranged exhibitions. Public support and cooperation are essential for the success of intelligent city planning and almost every approach has been used to awaken civic interest.

ECONOMIC SITUATION AND OUTLOOK

According to the Market Analysis Committee of the Producers' Council, the private and public new construction during 1944 is represented in terms of $4,000,000,000; as compared with 1943—$8,000,000,000; 1942—$13,500,000,000; 1941—$11,100,000,000, and 1940—$7,000,000,000. In 1944 new private construction amounting to about $1,000,000,000, and new public construction amounting to about $3,000,000,000 were undertaken. Of the latter amount $1,300,000,000 was represented by military and naval construction. A basic post-war requirement of about 600,000 new non-farm dwelling units a year has been estimated. There has also accumulated a great volume of deferred maintenance repair and modernization as well as a large demand for new industrial construction. For the record in 1944 in the construction field—18,000,000 families do not own their own homes; 37,000,000 standing residential structures need improvement; 10,000,000 other buildings need major repairs; 6,000,000 farms have only one-fourth the buildings they need.

DESIGN HOUSING

Baldwin Hills Village, Los Angeles: Associated Architects, Reginald D. Johnson, and Wilson, Merrill and Alexander; Consulting Architect, Clarence S. Stein.

Aluminum City Terrace Housing: Walter Gropius and Marcel Breuer, Architects.

Rural Activities Center Project, Tennessee Valley: Roland A. Wank and Mario Bianculli, Architects.

Princeton Park: 908 unit development for Chicago Negro families; Holsman and Holsman, Architects.

"Solar houses" near Chicago. George F. Keck, Architect.

Experimental House in Black Mountain, N. C. A. Lawrence Kocher, Architect.

PUBLIC AND INSTITUTIONAL

Fresno City Hall, Fresno Calif.: Franklin and Kump and Associates, Architects.

Roosevelt Hospital, Bremerton, Wash.: Architects: F. A. Naramore and Associates—Clyde Grainger, Clifton J. Brady, Perry B. Johanson; Section of the U. S. Public Health Service—Marshall Shaffer, Chief Architect; Neil MacDonald, Consultant.

Residence and School for Nurses, Bellevue Hospital, New York City: Alfred Hopkins and Associates, Architects.

Roosevelt Naval Base, Terminal Island, Long Beach. (Enlisted Men's Recreation Group): Allied Engineers, Inc., Donald R. Warren, Chief Engineer; Adrian Wilson, Chief Architect; Paul R. Williams, Associate Architect.

FACTORIES

Fontana Steel Mill, Fontana, Calif.: Office of Donald R. Warren, Engineer; Birge M. Clark and David B. Clark, Architects.

BOOKS

Built in U.S.A., 1932-44: edited by Elizabeth B. Mock; plans and photos of 47 buildings, Museum of Modern Art.

Greek Revival Architecture in America, by Talbot Hamlin.

Medieval American Art (2 vols.), by Pal Kalemen.

Egypt (58 plates), by Hoyningen-Heune and George Steindorf.

Hellas (64 plates), by Hoyningen-Heune.

Writings on Early American Architecture, by Frank J. Roos Jr.

California Missions, by Hildegarde Hawthorne, illustrated by E. H. Suydam.

Cities of Latin America, by Francis Violich.

New Architecture and City Planning, by Paul Zucker.

Town Planning and Road Traffic, by H. Alker Tripp.

American Housing—Problems and Prospects, by Miles L. Colean and Housing Committee of the Twentieth Century Fund.

TVA—Democracy on the March, by David E. Lilienthal.

Creative Demobilization (Vol. 1), *Principles of National Planning* (Vol. 2), Case Studies, by E. A. Gutkind (editor).

Modern Airfield Planning and Concealment, by Merrill E. De Longe.

Precautionary Camouflage—Planning for Low Visibility without Reliance upon Artificial Coverings, by Margaret Greenough King. (OCD Publication 2019).

The Condition of Man, by Lewis Mumford.

PERIODICALS

Periodicals, including the architectural journals, have been rationed on a small part of their peace time needs of paper. This has been accomplished in two ways—by reducing the weight and quality of paper, thus substantially maintaining normal circulation and number of pages; or maintaining normal weight and quality of paper and striking a balance between circulation and number of pages. The former method seems to prevail in the United States, the latter in England. The English journals of architecture—for example, *The Architectural Review*—still make use of their usual fine quality of pre-war paper. In consequence material is presented to much better advantage.

MUSIC AND THE OPERA

By Oscar Thompson

Music Critic, *The New York Sun*

GENERAL

In spite of transportation difficulties, the year 1944 found music flourishing in every part of the United States, with both opera companies and the symphony orchestras traveling extensively and with concert artists going the country over in fulfilling engagements. All of the major orchestras were in the field, and the Chicago Opera Company, which had no season in 1943, resumed its performances in 1944. There again was a demand for traveling opera, and to the companies which carried this across the land in 1943, two or three more were added in 1944. An increase was noted in the performances of opera that were locally promoted, many of these having guest artists from New York, Chicago, or Philadelphia.

The United Service Organizations and other agencies increased their activities in carrying music to the armed forces, together with the most varied forms of entertainment. France, Great Britain, Northern Ireland, Italy, Africa, Iceland and the Islands of the Pacific, all were provided with programs that were of American origin, and many well-known musical artists devoted all or much of their time to tours of Army, Navy and Marine Corps stations. Other musicians, who were continuing their professional careers in America, gave a portion of their time to the services. Various orchestras played regularly at training cantonments.

OPERA AT THE METROPOLITAN

With Edward Johnson continuing as its general manager, The Metropolitan Opera Association continued to the end of its 1943-44 season of 20 weeks, undertook a spring tour, and resumed its performances after the summer holiday. The 1944-45 season, was set for 18 weeks. The first operas of 1944 were Verdi's "La Traviata" in the afternoon and Mussorgsky's "Boris Godunoff" in the evening of Jan. 1. There were revivals of Verdi's "Falstaff" on Jan. 14 and of Debussy's "Pelléas et Mélisande" on Jan. 26. "Falstaff" was sung in English and was conducted by Sir Thomas Beecham. "Pelléas et Mélisande" was under the musical leadership of Emil Cooper. Lawrence Tibbett, and later Leonard Warren, essayed the fat knight in the "Falstaff" revival; and Eleanor Steber, Francis Greer, Lucille Browning, Charles Kullman, and John Brownlee were in the cast. For the "Pelléas and Mélisande," Martial Singher and Bidu Sayao were cast in the titular roles, with Lawrence Tibbett, Margaret Harshaw, and Alexander Kipnis in the supporting cast. A revival of Puccini's "Gianni Schicchi" was presented on Jan. 6, conducted by Cesare Sodero. There was a return to the Italian text, the opera having last been sung in English. Salvatore Baccaloni appeared as Schicci. On the same evening, Ella Flesch made a surprise debut in the title part of Strauss' "Salome," the other half of a double bill, taking the place of another singer who was indisposed.

The appearance of Marjorie Lawrence as Isolde in the March 15 performance of Wagner's "Tristan und Isolde" was of special interest, since hers was a sitting Isolde throughout, the partly paralyzed soprano being unable to move about. Jennie Tourel made her Metropolitan debut in Thomas' "Mignon" on March 16. Emery Darcy was heard in a first "Parsifal" on March 29. George Szell conducted the annual cycle of Wagner's "Ring des Nibelungen," beginning on Feb. 8 and ending on Feb. 29. A second "Ring" cycle was given at the end of the season, "Goetterdaemmerung" being the final opera on April 18. This was designated as the "Diamond Jubilee" season.

Performances were given in Philadelphia on Tuesday evenings throughout the season and at its close the company filled engagements in Boston, beginning April 10; Chicago, beginning April 17; and Cleveland, May 1, through May 6.

The 1944-45 season of the Metropolitan, which was the 60th season of opera there, though the 62nd season for the house, was inaugurated on the evening of Monday, Nov. 27, with Gounod's "Faust," which had opened the first season in 1883. Licia Albanese, Martha Lipton, Thelma Votipka, Raoul Jobin, Ezio Pinza, Martial Singher, and John Baker were the singers. Wilfred Pelletier conducted.

All seats were sold, and there were many standees at the opening and at many other performances before the first of the year. Mozart's "Don Giovanni" and Wagner's "Lohengrin" were restored on Nov. 29 and Dec. 20, respectively, the former conducted by George Szell, the latter by Erich Leinsdorf, who had been honorably discharged from the Army shortly before. Florence Kirk made her debut as Donna Anna in "Don Giovanni." Helen Traubel sang Elsa for the first time in "Lohengrin." Other debuts included Philip Whitfield in Verdi's "Aida" on Nov. 30, Hugh Thompson in Puccini's "La Boheme" on Dec. 1, Regina Resnik in Verdi's "Il Trovatore" on Dec. 6, and Blanche Thebom in Wagner's "Die Walkuere" on Dec. 14.

General Manager Johnson announced, prior to the opening of the season, that Prokofieff's "War and Peace," a projected novelty, could not be given until a subsequent year.

OTHER OPERA IN NEW YORK

At New York City Center, formerly Mecca Auditorium, three spans of opera were given by the City Center Opera Company, a new organization of a semi-municipal sponsorship, under the musical leadership of Laszlo Halasz. The first of these was for a week beginning Feb. 21, the second for two weeks beginning May 2, and the third for a longer period beginning Nov. 9. The operas of the first season were Puccini's "Tosca," Bizet's "Carmen," and Flotow's "Martha." Verdi's "La Traviata" and the double bill of Mascagni's "Cavalleria Rusticana" and Leoncavallo's "Pagliacci" were added in the second; and Puccini's "Manon Lescaut" and Strauss' "Gypsy Baron" for the third.

The San Carlo Company gave a New York season of 12 evening performances and four matinees at the Center Theater, April 26 to May 12, besides continuing its tours of the country. There were concert performances of Smetana's "Dalibor" and Handel's "Julius Caesar"; and Arturo Toscanini with the NBC Symphony, soloists and chorus, presented—also without stage trappings or action—Beethoven's "Fidelio" at two broadcast performances on Dec. 10 and 17. The only new opera of the year—though perhaps it would be better classified as operetta—was Wagenaar's "Pieces of Eight", at Columbia University, for a week beginning May 10.

OPERA IN CHICAGO AND PHILADELPHIA

The Chicago Opera Company resumed its performances under the musical leadership of Fausto Cleva. Its season was from Oct. 16 to Nov. 18, the operas including Bizet's "Carmen," which opened the series; Verdi's "La Traviata," Puccini's "La Boheme," Verdi's "Aïda," Wagner's "Die Walkuere," Verdi's "Il Trovatore," Verdi's "Otello," Gounod's "Roméo et Juliette," Debussy's "Pelléas et Mélisande," Gounod's "Faust," and Verdi's "Rigoletto." Gladys Swarthout was the featured artist of the opening "Carmen." A three day Verdi festival was held at Soldiers Field, July 21 through July 23, by the San Carlo Opera Company.

In Philadelphia the La Scala Opera Company was active in both the old and the new season and it toured extensively. It gave a spring festival in May, after the close of its regular season on May 3 with a performance of Bizet's "Carmen." On March 10 it completed a tour at Hampton, Va., in which it played 60 dates in 23 states of the United States and Canada. There was a fall tour of five performances in Buffalo, eight in Detroit and seven in Cleveland. The opera company reopened in Philadelphia on Oct. 25. A revival of Donizetti's "La Favorita" was among the projects of the new season. The Philadelphia Opera Company made a long tour of 20 weeks that included a two-week series in San Francisco. Bizet's "Carmen" was presented in Philadelphia by the Columbia Opera Company on Oct. 10.

OPERA IN SAN FRANCISCO

In San Francisco the Russian Opera Association presented Borodin's "Prince Igor" for two performances in September, three weeks before the beginning of the regular season of the San Francisco Opera Company under

Gaetano Merola. Verdi's "Aïda" was the opening opera on Sept. 27 and was followed by Flotow's "Martha," Massenet's "Manon," Strauss' "Salome," Wolf-Ferrari's "The Secret of Suzanne," Verdi's "Falstaff," Gounod's "Faust," Verdi's "Un Ballo in Maschera," Offenbach's "Tales of Hoffmann," Bizet's "Carmen," Donizetti's "Lucia," and Verdi's "Forza del Destino." Performances were given in the War Memorial Opera House. The San Francisco performances were succeeded by three in Sacramento, six in Los Angeles and one in Pasadena.

There were opera performances in New Orleans, Dayton (Ohio), Rochester (N. Y.), Newark, Washington, and other cities. The Baccaloni Opera Company, the Charles L. Wagner Opera Company, The Boston Opera Company and the National Grand Opera were among touring organizations. In New Orleans it was reported that plans for the rebuilding of the opera house, which was burned in 1919, were progressing. It will be a post-war development. A season opened in New Orleans on Nov. 2 and will continue until the end of February 1945.

THE PHILHARMONIC-SYMPHONY

The 102nd season of the New York Philharmonic-Symphony continued until April 16, 1944, the concluding concerts being under the direction of Artur Rodzinski, the musical director. At one of his last concerts, that of Sunday, April 2, Dr. Rodzinski introduced the Shostakovich Eighth Symphony, the music of which had been flown here by plane from Soviet Russia. Bruno Walter, announcing that he was leaving on a sabbatical year in which he would do only some special conducting, celebrated the 50th anniversary of his debut as a conductor in March. On the 19th of the month he led a performance of Beethoven's Ninth Symphony, with the Philharmonic-Symphony, the Westminster Choir and soloists. On April 6 he conducted Bach's St. Matthew Passion, with the same orchestra and chorus.

The new season of 1944-45 was begun with a concert in Carnegie Hall on the evening of Oct. 25. The schedule called for regular subscription events through a period of 28 weeks, as follows: 14 on odd Thursday evenings, the programs to be repeated on 14 odd Friday afternoons; 14 on even Thursday evenings, with repetitions on 14 even Friday afternoons; seven on odd Saturday evenings and seven on even Saturday evenings; 14 on odd Sunday afternoons and 14 on even Sunday afternoons; and six Young People's concerts on Saturday mornings. Rodzinski was to conduct all concerts, except for two weeks of guest leadership by Pierre Monteux, two weeks by George Szell, a week by Leonard Bernstein, a week by Igor Stravinsky, and the Young People's Concerts, which were again entrusted to Rudolph Ganz. Under its broadcasting arrangement, the Philharmonic-Symphony broadcasts on Sunday afternoons the year round.

NEW ORCHESTRAL WORKS

American works continued to outnumber new works from abroad in the record of first performances by the orchestras. Symphonies presented at initial hearings during the year included: Shostakovich's No. 8, Hanson's No. 4, Copland's "Short" Symphony, Antheil's No. 1, Schumann's Symphony for Strings, Barber's No. 2, Bernstein's "Jeremiah" Symphony, Harris' No. 6, Vaughan Williams' No. 5, Moross' No. 1, Nabokoff's "Sinfonia Biblica," and Diamond's No. 2. Violin concertos by the following were played: Dukelsky, Martinu, Bennett, Gruenberg. Schoenberg's Piano Concerto was introduced. Other new concertos heard included Fuleihan's, for violin, piano, and orchestra, and Creston's, for saxophone and orchestra. Schoenberg's "Ode to Napoleon," Still's "In Memoriam: The Colored Soldiers Who Died for Democracy," Hindemith's "Metamorphosis on Themes by Weber" and his ballet-overture "Cupid and Psyche," Gretchaninoff's "Missa Occumenica," Riegger's Canon and Fugue in D minor, Dello Joio's Magnificat, Schumann's "William Billings" Overture, Thomson's Suite for Orchestra, Bornschein's "Ode to the Brave," Bartok's Concerto for Orchestra, Wagenaar's "Song of Mourning," Still's Poem for Orchestra, Tuthill's "Come Seven" Rhapsody, Milhaud's "Cortege Funebre," and Barrymore's "Praeludium and Fugue" were among other new compositions performed. Lukas Foss' cantata "The Prairie" was given by the Collegiate Chorale and announced for performance in the new season by the Philharmonic-Symphony.

OTHER NEW YORK ORCHESTRAS

A new orchestral body entered the field in New York during the year. This was the New York City Orchestra, organized and conducted by Leopold Stokowski, which played at City Center. Like the City Center Opera Company, the orchestra had a semi-municipal backing. It gave its first concert on March 6 and subsequently was presented in two additional series, one beginning on March 14 and one on Oct. 9. The last of these included six Monday evening programs, with six repetitions on Tuesday afternoons for working groups and service men.

The NBC Symphony continued its year-round broadcast programs, with Arturo Toscanini conducting a Beethoven Series, beginning on Oct. 30 and ending on Dec. 17. Leopold Stokowski continued as a conductor of this orchestra through the remaining months of the old season, but was not on its staff in the new season.

Toscanini led the combined orchestra of the NBC and the Philharmonic-Symphony, together with a high school chorus and soloists, in a concert for the benefit of the Red Cross, in Madison Square Garden on May 25. The National Orchestral Association began on Nov. 27 a new series of concerts as a training orchestra under Leon Barzin, with about half of its membership women. The New Friends of Music, which formerly supported an orchestra, devoted both the old and the new season to chamber music, its programs for 1944-45 being representative of Mozart and various French composers.

THE BOSTON SYMPHONY

Led by Serge Koussevitsky, the Boston Symphony closed its 63rd season on April 29 in Symphony Hall and opened its 64th there under the same conductor on Oct. 6. The new season, which was Koussevitsky's twenty-first with the orchestra, was planned to include 24 pairs of Friday afternoon and Saturday evening concerts, six on Sunday afternoons, six on Monday evenings—all in Symphony Hall—and six in Sanders Theater, Cambridge on Wednesday evenings. The orchestra began its five Thursday-Saturday pairs in New York on Nov. 15 and in addition was scheduled to play five concerts in Brooklyn, five in Providence, two in New Haven, and one each in New Brunswick, Hartford, Worcester, Washington, New London, Newark, Northampton, Philadelphia, and Springfield. A western tour was carried out early in December, with concerts in Cleveland, Akron, Toledo, Chicago (two), Milwaukee, and Ann Arbor.

At the opening concert of the Boston season, Beethoven's "Eroica" Symphony was played, with the dedication "to the heroes of the United Nations." George Szell, Leonard Bernstein, and Dimitri Mitropoulos appeared as guest conductors. Arthur Fiedler and Richard Burgin, concertmaster and assistant conductor, also led concerts.

Between the regular seasons, players of the orchestra gave the annual Boston "Pop" series under the baton of Arthur Fiedler, beginning on May 2, and the Esplanade Concerts, also conducted by Fiedler, which ran from July 20 to Aug. 16. The new season of Youth Concerts began under the direction of Wheeler Beckett on Oct. 25. The resignation of Joseph Wagner as conductor of the Boston Civic Symphony, which post he had occupied for 18 years, was the occasion of a testimonial final concert in May.

THE PHILADELPHIA ORCHESTRA

The regular 1943-44 subscription season of the Philadelphia Orchestra closed on April 24 with an all-Tchaikovsky program conducted by Eugene Ormandy. The new season—the orchestra's 45th—was opened on Sept. 29 under the same leadership. Pierre Monteux and Saul Caston were announced to appear also as conductors, and one pair of concerts was assigned to Thor Johnson. The season will include 76 concerts in Philadelphia, exclusive of "special concerts," which are those for the Pension Foundation, a War Bond Concert, one for the relief of Russian War Orphans, and one at the Naval Hospital. Of the subscription concerts, 28 pairs are scheduled for Friday afternoons and Saturday evenings, and 10 for Monday evenings. Five children's concerts are set for Saturday mornings.

The orchestra ended its New York concerts for 1943-44 on April 12 and resumed them for the 1944-45 season on Oct. 3, both events being under the leadership of Eugene Ormandy. Ten New York concerts are given each season. A schedule of five events in Washington was begun on Oct. 17 and one of six concerts in Baltimore on Oct. 18. The orchestra played at the Worcester Festival, Oct. 9 to 14, in Richmond on Oct. 16 and toured the mid-west, Oct. 29 to Nov. 5, playing in Pittsburgh, Dayton, Fort Wayne, Kalamazoo, Columbus, and Youngstown. A concert was given in Harrisburg on Dec. 5, Lorin Maazel was engaged to conduct a children's concert and Artur Toscanini agreed to lead the last Pension Fund concert in 1945. Early in the new season, Virgil Thomson appeared as conductor of his own Suite of "Portraits."

THE CHICAGO SYMPHONY

The Chicago Symphony, led by its musical director, Désiré Defauw, gave the concluding concert of its 53rd season in Orchestra Hall on April 21. The new season opened on the evening of Oct. 12, again with Defauw conducting. The subscription called for 28 pairs of Thursday evening and Friday afternoon concerts, and 12 on Tuesday afternoons, the latter to be given on the second and fourth Tuesdays of each month, beginning Oct. 24. A Beethoven series, to include all of that composer's symphonies and various other works, was announced for the Thursday and Friday concerts. In addition, there were scheduled 20 programs in two series of Popular Concerts, beginning on Nov. 4, and six Young People Concerts, beginning in November. The orchestra had ten new members at the beginning of the season. Concerts in Milwaukee were continued. The Woman's Symphony Orchestra, led by Jerzy Bojanowski, began its season on Oct. 6.

CLEVELAND ORCHESTRA

The Cleveland Orchestra closed the 1943-44 season under the leadership of its associate conductor, Rudolph Ringwall, and of various guest conductors. It gave a final broadcast on April 16. Vladimir Golschmann and Sir Thomas Beecham were among the last conductors. Erich Leinsdorf, the orchestra's regular conductor, led his final program on Jan. 16 and then reported for induction in the United States Army. Eugene Goossens and Frank Black were among the guest leaders. The orchestra conducted tours in February and March.

The new season—the orchestra's 27th—was opened in Severance Hall on Oct. 12, with Eugene Goossens as guest conductor. George Szell was a November guest. The schedule called for 20 pairs of concerts on Thursday and Saturday evenings, of which Golschmann was to conduct seven pairs, Fritz Reiner three pairs, Szell two pairs and Frank Black two pairs. There were to be 46 concerts on tours that would carry the orchestra into ten states. Ann Arbor, Saginaw, Grand Rapids, Jackson (all in Michigan); Findlay and Delaware, Ohio were visited before the first of the year. Two other tours and a series of out-of-town children's concerts, led by Ringwall, were arranged. Six Twilight Concerts were also scheduled, the first on Oct. 2 being also under Ringwall's leadership. The orchestra appeared with the Ballet Theatre on Nov. 21, 22, and 23.

CINCINNATI AND ST. LOUIS

The Cincinnati Symphony, conducted by Eugene Goossens, participated in the May Festival, beginning on May 12, at the close of its regular season. This was the 35th such festival, which is now 71 years old. The orchestra's new season, which opened on Oct. 13, was Goossens' 14th year as its conductor. It was also the Golden Jubilee season for the organization, and the opening concert had a festive atmosphere. Beethoven's Eighth and Ninth Symphonies were performed, with the Cincinnati May Festival chorus participating. The orchestra has a season of 20 pairs of regular symphony concerts, continuing into April. Walter Heerman is in charge of 5 Young Peoples Concerts and Reuben Lawson conducts 7 Popular Concerts. Morton Gould appeared as guest conductor at the concerts of Nov. 25-26.

The St. Louis Symphony, conducted by Vladimir Golschmann, closed its 64th season on March 12. It opened the 65th in the Kiel Opera House on Nov. 4, with the same conductor, who is now in his fifteenth year with the orchestra. Nine women are members of the orchestra this year. Leon Barzin, Andre Kostelanetz, Leonard Bernstein, Stanley Chapple, and Henry Farbman are guest conductors. Farbman appeared on Nov. 18 and 19. There are 18 Saturday evening and the same number of Sunday evening concerts, as well as special events, Popular Concerts, and appearances with the Ballet Theatre. The St. Louis Philharmonic, now in its 85th season, opened on Nov. 9, with Laurent Torno as conductor. The orchestra appeared with the Ballet Theatre on Nov. 12-13.

WASHINGTON AND BALTIMORE

Having played through the Watergate Series, June 11 to July 9, after the close of its regular season, the Washington Symphony, under Hans Kindler, resumed its concerts on Nov. 8, with a heavy schedule of concerts, 29 in Washington and 23 out-of-town. There are four Washington series: eight concerts on Wednesday evenings, ten on Sunday afternoons, three for youth and two for Federal employees, as well as three appearances with the Ballet Theatre. The first tour was held in November, and a concert was given in New York on Dec. 5 for the benefit of the Van Loon Scholarship Fund of the Netherland-American Foundation. The season is the orchestra's 13th in Baltimore, where 11 concerts are scheduled, and its 12th in Richmond, where it is appearing at three concerts. Its tours carry it throughout the East, from Virginia to Maine.

A request program ended the old season for the Baltimore Symphony, under Reginald Stewart, on Feb. 24 at the Lyric Theatre. It resumed its concerts for the 1944-45 season in the same auditorium on Nov. 8, its schedule calling for 13 Wednesday evening concerts and two series of Sunday events, six on afternoons and six in the evening. The Philadelphia Orchestra began a series of six visits on Oct. 18. The National Symphony of Washington gave its first Baltimore concert in November, after having ended the series for the previous season in March.

PITTSBURGH, HARRISBURG, AND INDIANAPOLIS

The final concert of the Pittsburgh Symphony's season for 1943-44 was held in Syria Mosque under Fritz Reiner on April 2. The first concert of the new season was given there on Nov. 10, under the same conductor. Thirty-two concerts are scheduled for the regular Pittsburgh series, and in addition 30 concerts in the high schools of the Pittsburgh district, two concerts for children and three "Pop" concerts. On tour, the orchestra is giving 14 concerts and also three programs for children. Dr. Reiner conducts 28 of the regular Pittsburgh concerts and 14 concerts on tour. Vladimir Vakaleinikoff, assistant conductor, is in charge of two pairs of the regular series, all of the high school concerts, the children's concerts, and two of the special concerts.

The Harrisburg Symphony, conducted by George King Raudenbusch, having completed its 14th season on May 2, resumed its concerts for the 15th season on Oct. 17, under the same leadership. Five concerts were announced for 1944-45, in the Forum of the Pennsylvania State Building, which has a seating capacity of 2,000. In addition, the orchestra is sponsoring two concerts by the Philadelphia Orchestra, the first of which was given on Dec. 5.

The Indianapolis Symphony, under the leadership of Fabien Sevitzky, began its new season on Oct. 29 with a schedule of ten regular concert pairs, three special concerts, and three municipal concerts, two industrial concerts, two children's concerts, and seven programs in the public schools. The orchestra's extensive tours included an appearance in New York, on Dec. 6. Thirty-two out-of-town concerts were scheduled. The 1943-44 subscription concerts were concluded on March 26.

DETROIT, MINNEAPOLIS, AND KANSAS CITY

The first season of its resumption, after a year when it gave no concerts, was completed by the Detroit Symphony under Karl Krueger on Feb. 24. Virgil Thomson appeared as guest conductor in the first week of January to lead his "Plough that Broke the Plains." There was an additional series of eight concerts, June 17 to July 12, under Krueger. These were called the summer Twilight Concerts. On Oct. 12, the orchestra opened its 30th season, with Krueger again conducting, and with Walter Poole as his associate. The season was scheduled to continue until March 8, with 20 Thursday night concerts and 20 on Saturday nights. A post-season series of four concerts was announced.

The Minneapolis Symphony, again led by Dimitri Mitropoulos, resumed its concerts on Oct. 27. This was its 42nd opening. The 1943-44 season closed April 14. Louis Krasner is concertmaster, and there are a number of women in the ensemble. Eighteen evening concerts are given at the University of Minnesota together with five extra concerts, seven "twilight" concerts and six concerts for young people. The orchestra's educational concerts and those for service men continue. Efrem Kurtz again conducted the Kansas City Philharmonic. A 20-week series under his direction opened on Oct. 17. Alexander Murray is concertmaster.

SAN FRANCISCO, LOS ANGELES, AND SEATTLE

Pierre Monteux conducted the San Francisco Orchestra in the remaining concerts of the old season, ended on April 1, at the Memorial Opera House. He was relieved by Carlos Chavez as guest in February. A Beethoven Festival was given on March 15, 16, and 17. The new season started on Dec. 1. Included were four Thursday evening concerts—a new venture; eight on Friday afternoons, 12 on Saturday nights, a series for the Art Commission, and the usual Young Peoples Concerts. The last of these were conducted by Rudolph Ganz. A Brahms festival was scheduled for the new year.

The new season of the Los Angeles Philharmonic was begun on Nov. 16, with Alfred Wallenstein again in charge. Twelve Friday afternoon concerts and 16 Thursday evening concerts were announced. Thirteen youth concerts were scheduled. The Werner Janssen Orchestra of Los Angeles gave its first concert of the season on Nov. 26.

The sudden departure of Sir Thomas Beecham, who had been the 1943 conductor of the Seattle Symphony, occasioned wide comment. Carl Bricken was engaged to lead the orchestra in the new season and conducted the first concert on Oct. 2. Eight Monday night concerts, a Wednesday night repeat series, and three popular Sunday afternoon concerts were scheduled.

OTHER ORCHESTRAS

José Iturbi's retirement from the post of conductor of the Rochester Philharmonic led to the engagement of Guy Fraser Harrison (also conductor of the Rochester Civic Orchestra), Fritz Reiner, Sir Thomas Beecham, Dimitri Mitropoulos, Howard Barlow, Andre Kostelanetz, and Igor Stravinsky as guest conductors for the new season, which opened on Nov. 2 in the Eastman Theatre with Reiner in charge. The Buffalo Philharmonic, conducted by Franco Autori, began its season on Nov. 4 in Kleinhans Music Hall. The New Orleans Symphony, led by Massimo Freccia, who was appointed in the spring, began its season on Nov. 7. It was to give 10 concerts at the Municipal Auditorium and 10 at McAllester Auditorium. Twenty-four children's and popular concerts also were arranged. Symphony show-boat visits were projected to reach Mississippi River towns. The Louisville Philharmonic, conducted by Robert Whitney, began its season on Oct. 17, in Cooper Memorial Auditorium. Nov. 21 was the opening date for the Memphis Symphony, conducted by Burnet C. Tuthill. The Columbus Philharmonic, led by Izler Solomon, opened the new season on Oct. 24 in Memorial Hall. The Milwaukee Symphony began on Oct. 30 under the leadership of Julius Erlich. The Houston Symphony, conducted by Ernst Hoffman, gave its first concert on Oct. 23. The San Antonio Symphony also began an extended season, conducted by Max Reiter. The Charleston (W. Va.) Symphony, of which Antonio Modarelli is conductor, inaugurated its new year on Nov. 5. The Denver Civic Symphony, the Salt Lake Symphony, and the North Carolina Symphony were also active.

FESTIVAL EVENTS

The resumption of the Cincinnati May Festivals on May 12 was an event of much interest. Eugene Goossens conducted. The Bethlehem Bach Festival was held on May 19 and 20 and conducted by Ifor Jones. The 51st Ann Arbor Festival on May 4, 5, 6, and 7, with the Philadelphia Orchestra and soloists, was again one of America's outstanding series of programs of this kind. The Rochester (N. Y.) Festival of American Music under Howard Hanson was given April 24 to 28. The Berea (Ohio) Bach Festival was held April 20, 21, and 22. Other festivals included one at Hartland, Mich., April 22 to 25; one by the American Society of Ancient Instruments, in Philadelphia, March 30 and 31; one at Winston-Salem, N. C., July 19 to 23; one at Columbia, S. C., in May; and the Tanglewood Mozart Festival in the Berkshires, July 29 to Aug. 5, with Serge Koussevitsky conducting the Boston Symphony in a series of Mozart programs.

The 85th Worcester Festival was held at Worcester, Mass., Oct. 9 to 14. There were six events—four subscription concerts, an evening of familiar music and a children's concert. The Philadelphia Orchestra participated. Walter Howe was the festival's music director, having been chosen to succeed the late Albert Stoessel in January. In Washington, the Library of Congress Festival was held on Oct. 28, 29, and 30, and the programs included new dance works for Martha Graham by Hindemith, Copland, and Milhaud.

SUMMER EVENTS

The Lewisohn Stadium Concerts in New York, again played by the Philharmonic-Symphony, opened on July 20—one day late, because of rain—with Sir Thomas Beecham conducting and with Fritz Kreisler playing in the open air for the first time. The concerts continued until Aug. 13, under various conductors, including Vladimir Golschmann, Eugene Goossens, Alexander Smallens, Leonard Bernstein, Efrem Kurts, Lorin Maalzel, Fabien Sevitzky, Antal Dorati, Robert Stolz, and Thor Johnson. In addition to the symphony programs, "Aida," "Carmen," and "La Traviata" were given.

At the Robin Hood Dell in Philadelphia the summer concerts began on July 19 and continued to Aug. 5. Dimitri Mitropoulos was the first conductor and was followed by George Szell, Vladimir Golschmann, and Dean Dixon. Concerts were given in spite of the transit tie-up, caused by a strike. The Hollywood Bowl season opened on July 11 and continued to Sept. 3. The conductors included Dimitri Mitropoulos, George Szell, Sir Thomas Beecham, Leonard Bernstein, Morton Gould, and Vladimir Balakeinikoff. In Washington, the Watergate Concerts were held from June 11 to July 9, with Hans Kindler, Antal Dorati, and Alexander Smallens among the conductors. At Ravinia Park, Chicago, there were concerts from June 27 to Aug. 6, with Pierre Monteux, Leonard Bernstein, George Szell, Désiré Defauw, Vladimir Golschmann, and Efrem Kurts among the conductors.

The Grant Park (Chicago) concerts were held from July 1 to Sept. 3. The Chicago Musical Festival attracted 90,000 persons to Soldiers Field on Aug. 14. Other summer events included the Detroit Twilight Concerts, conducted by Karl Krueger, June 17 to July 12; Cleveland's 6th annual season of "Pop" concerts, conducted by Rudolph Ringwall, June 21 to July 29; the Washington Chamber Music Concerts, opening on June 21; Milwaukee's "Music Under The Stars" concerts, beginning June 20 and conducted by Jerzy Bojanowski; and concerts by the Buffalo Philharmonic, led by Frederick A. Ressel, beginning on July 11 and continuing throughout August.

CRITIC'S AWARD TO BERNSTEIN AND IMBRIE

The New York Music Critics Circle made an award to Leonard Bernstein for his "Jeremiah" Symphony, which was voted the best new symphonic work heard during the season of 1943-44 in New York, and another to Sgt. Andrew W. Imbrie, for his string quartet in B flat, as the best new chamber work.

THE THEATRE

By Alfred Clark

News Department, *The New York Times*

WAR AND THE STAGE

The war's impact on the American Theatre continued to be a major influence during 1944 both in the nature of many plays presented and the financial returns that accrued at Broadway's busy box-offices. From a monetary standpoint, the year was an even more prosperous one than 1943 which had been compared by stage historians to the booming stock market era of the middle Twenties. Not only did a record number of persons throng the Times Square playhouses, but the year marked the entrance of many non-professionals into the hallowed ranks of the theatrical producers. It was a common practice to read in the amusement columns just how much of a "piece" was owned by various "angels" who found backing dramatic ventures to be more exciting than investing in more conservative enterprises.

The rank and file of the theatre, as well as some of its most glittering stars, did not forget our fighting men and women stationed both in this country and on overseas battlefronts. Katharine Cornell and Brian Aherne presented a streamlined version of the successful "The Barretts of Wimpole Street" to the admiring appreciation of G.I.'s in the European theater of operation. Maurice Evans and Judith Anderson co-starred in a number of Shakespearean productions in the South Pacific. Here at home, the American Theatre Wing War Service's Stage Door Canteen remained an irresistible attraction to the soldiers and sailors who swarmed through the Broadway area night after night. USO Camp Shows, Inc. was active on even a greater scale in this third full year of war for America and extended its routes both in this country and overseas.

"A BELL FOR ADANO"

On the boards, there was a marked increase in the number of plays that dealt seriously with the present international conflict. Not all of the plays devoted to the problems confronting men in battle and those left behind on the home front were successful, but some dramatists showed definite progress toward a deeper understanding of the underlying causes of the war between the forces of democracy and fascism.

One of the most impressive plays was adapted from a recent best-selling novel, *A Bell for Adano,* by John Hersey, the young war correspondent who had also written *Into the Valley.* Opening at the Cort Theatre early in December, the production was hailed by critics as a satisfactory exposition of the manner in which democracy seeks to win back the confidence of the townspeople of fascist-dominated Adano. Paul Osborne, in dramatizing the book, faced a difficult problem in conveying as much of the novel's action to the stage as was theatrically possible. He achieved this with consummate skill by making clever use of off-stage "business" to bring smooth continuity to the drama.

The play opens with Major Victor Jopollo's arrival in the tiny Italian fishing town and tells of his efforts to persuade the people that the Americans are not like the lately-departed Germans who removed their most precious possession, the bell atop the town hall. How Adano is metamorphosized from fascism to democracy by the generous treatment and warm understanding of Major Jopollo makes the drama the most notable war play of the year. In the leading role of the AMG representative who incurs the wrath of a superior officer for countermanding the latter's order, Fredric March gave an excellent performance. Although the character of Jopollo was not one possessing a great deal of humor, March brought real warmth and dignity to the role. Under the astute direction of H. C. Potter, the varied parts in the play's exceptionally large cast were effectively interpreted by Albert Raymo, Everett Sloane, Bruce MacFarlane, Tito Vuolo, Alexander Granach, and Rolfe Sedan among others. Despite the fact that its romantic interest is slight, Margo, as Tina, the daughter of a village fisherman, brought understanding to a minor role. Leland Hayward, late of the Hollywood actor agencies, made his initial entrance as a producer with this play and gave evidence of being one of Broadway's happiest acquisitions from the West Coast.

"JACOBOWSKY AND THE COLONEL"

Another war play of merit to come along was "Jacobowsky and the Colonel," a vibrant and ingratiating comedy set against the shame and tragedy of the fall of France. The basis of the production was an original script by the noted European author, Franz Werfel, who escaped to this country shortly after France's debacle. S. N. Behrman adapted the comedy, which despite a satiric surface, was, in reality, a moving story of fear-stricken refugees fleeing before the advancing Nazi hordes. As Jacobowsky, the lowly Polish refugee who symbolizes the eternal refugee, Oscar Karlweis turned in a subtle and delightful characterization. Louis Calhern was splendidly pompous and deftly humorous as the colonel. Other workmanlike performances were contributed by Jane Marbury, J. Edward Bromberg, and Annabella. Elia Kazan staged the show which was produced by the Theatre Guild.

WAR AND RELATED THEMES

Dramatists also displayed a profound interest in the problems of the home front. The threat of the rise of fascism in America and the insidious growth of appeasement between two world wars were themes of two provocative dramas exhibited in 1944. In the former category, Edward Chodorov made a penetrating study of conditions at home with his drama, "Decision." The play was moderately successful, staying on for more than 150 performances.

Lillian Hellman again contributed a successful but highly controversial play, "The Searching Wind," which opened in April under the Herman

Shumlin banner and was still running at the end of the year. Cornelia Otis Skinner, Dennis King, Dudley Digges, and Barbara O'Neil were the dramatist's exponents of appeasement who either tragically or selfishly watched and stood by as the world marched toward another war.

Other plays less successful in the depiction of war themes included Maxwell Anderson's "Storm Operation," a realistic but slow-moving story of the invasion of North Africa. The play, which failed to attain the high standard of Anderson's "The Eve of St. Mark," closed after only 23 showings. Laurence Stallings, who just two decades ago collaborated with Anderson on "What Price Glory?" the best drama about the First World War, was represented late last season by the short-lived "The Streets Are Guarded." Harry Green, long known for his ability as a comedian, essayed a serious dramatic role in another unsuccessful war play, "The Day Will Come," while Sam Jaffe experienced similar ill luck in "Thank You, Svoboda."

The lads in uniform came in for their share of attention in a trio of the year's better comedies. The year 1944 was less than 72 hours old when Ruth Gordon neatly proved that, in addition to her acting talents, she could turn out a bright and enormously funny show—Max Gordon's production of "Over Twenty-One." George S. Kaufman directed the comedy which revolved around Miss Gordon as the wife of an old fellow of almost 40 who is trying to get his wings as an aviation cadet, the latter role being well played by Harvey Stephens. "Snafu," an amusing comedy by Louis Solomon and Harold Buchman, related the story of a discharged 15-year-old veteran of Pacific action against the Japanese and his parents' dilemma in adjusting themselves to his return. Rose Franken's "Soldier's Wife" had little to do with the war, but provided an entertaining slant on the homecoming of a service man whose wife has become a literary sensation. Martha Scott, Myron McCormick, and Glenn Anders played the major roles with the proper zest.

"HARVEY"

A rabbit, an unusual rabbit, one who stood six feet and one and one-half inches tall, provided the springboard for one of the most charming fantasies to be seen on Broadway in many seasons. His name was "Harvey," and when Frank Fay, as kindly, alcoholic Elwood P. Dowd, met him one night outside of a neighborhood bar, the ensuing action catapulted the play into one of the town's decided hits. Brock Pemberton produced Mary Chase's three-act comedy-fantasy, which Antoinette Perry directed. Frank Fay, who has long been a standby of the variety stage and night-club circuit, gave a superb performance in his first legitimate performance, while Josephine Hull as his sister was a perfect foil for Fay's casual ease.

"THE LATE GEORGE APLEY"

John P. Marquand, whose recent novels have evinced a strong interest in the doings of the world of the theatre, has at last made his appearance as a dramatist with a Broadwayized version of his Pulitzer Prize novel, *The Late George Apley*. The play, written in collaboration with George S. Kaufman, was a biting study of the proud Bostonian Apleys. Leo G. Carroll in the title role had one of the best parts of his long career as the lofty father who is baffled by the efforts of his two children to marry away from Beacon Hill. As Mrs. Apley, there was Janet Beecher who played the role with quiet strength, while Joan Chandler and David McKay were the rebellious children.

"I REMEMBER MAMA"

Another play of family life that was based on a best-seller by Kathryn Forbes was "I Remember Mama," which was dramatized and staged by John Van Druten, and produced by the musical collaborators, Richard Rodgers and Oscar Hammerstein, 2nd. Possessing great warmth and tenderness, the story told of a year or so in the life of a Norwegian-American family in San Francisco at about the turn of the century. Mady Christians and Oscar Homolka were heartily received as the "Mama" of the play's title and the belligerent "Uncle Chris," respectively.

"DEAR RUTH" AND "CHICKEN EVERY SUNDAY"

Norman Krasna was responsible for another bright evening in the theatre with his delightful comedy, "Dear Ruth," which was staged by Moss Hart. In it, he told the story of two young girls, the younger of whom works up a correspondence with a serviceman in Europe and signs her older sister's name to the letters. Virginia Gilmore, Howard Smith, Lenore Lonergan, and Phyllis Povah figured in the proceedings. A minor but pleasant "family" play was "Chicken Every Sunday," the Julius J. and Philip G. Epstein adaptation of the Rosemary Taylor novel.

"ANNA LUCASTA"

One of the surprise hits of the year was Philip Yordan's "Anna Lucasta" which the American Negro Theatre first brought to light in a tiny Harlem basement on 135th Street. The play, transplanted to Broadway, won its way into the hit class by its overall quality of the theatre.

It provided a talented young actress, Hilda Simms, with her first starring role. She was ably supported by Canada Lee, Alice Childress, and Frederick O'Neal.

ETHEL BARRYMORE AND OTHERS

Ethel Barrymore, one of the great ladies of the American Theatre, made her first Broadway appearance since "The Corn Is Green" as a devout Czech cook in Franz Werfel's "Embezzled Heaven," produced by the Theatre Guild. The play was not well received, although Miss Barrymore's performance won critical approval. During its run, she suffered a severe illness which caused cancellation of the production's engagement for more than a month. Mae West returned in a gaudy play of her own creation, "Catherine Was Great," upon which Michael Todd apparently spared no expense. Miriam Hopkins was the star of Samson Raphaelson's new comedy, "The Perfect Marriage," while the Greek actress Katina Paxinou made a brief appearance in "Sophie."

MUSICALS

Those Doubting Thomases who a few years ago predicted that the lavish song-and-dance show would be one of the wartime casualties may now go and hide their heads in shame. For no less than eight smash musicals rated critical accolades and long lines of eager ticket seekers. A throwback to the golden Ziegfeld period was Billy Rose's $24-top premiere of "The Seven Lively Arts," which returned Beatrice Lillie to the bosom of her devoted followers. Critics admitted the production was a handsome revue and spoke kindly of such performers as Bert Lahr, Benny Goodman, Anton Dolin, and Alicia Markova.

"Bloomer Girl" came to town heralded as another "Oklahoma!" It wasn't, but it did have its especial merits, chief among them being Celeste Holm and Joan McCracken. The Theatre Guild had a successful musical in "Sing Out, Sweet Land!" starring Alfred Drake as a roving minstrel typifying America's growth through song. "On the Town," which was inspired by a modern ballet, introduced a flock of charming youngsters to Broadway who definitely "took the town." Based on the life and music of the composer, Grieg, "Song of Norway," proved the outstanding operetta of the year. Irra Petina of the Metropolitan Opera and Lawrence Brooks were seen in the leading roles.

Ole Olsen and Chic Johnson made their third explosive sortie to Broadway in "Laffing Room Only," while Gertrude Neisen and Jackie Gleason sparked the proceedings in "Follow the Girls." Bobby Clark provided many of the laughs in "Mexican Hayride," which featured George Givot and Wilbur Evans. Both "Sadie Thompson," a musical version of "Rain" with June Havoc in the lead, and The New Opera Company's "Helen Goes to Troy" starring Jarmila Novotna enjoyed moderate success. However, "Allah Be Praised!" "Dream with Music" with Vera Zorina, "Jackpot," starring Allan Jones, and Fritz Kreisler's "Rhapsody" were four lavish, but disastrous, failures.

Vaudeville, apparently, returned to its former dormant state. Only two variety shows were presented during the year: "Take a Bow" with Chico Marx and Jay C. Flippen, and "Star Time," featuring Lou Holtz, Benny Fields, and Tony and Sally De Marco.

MELODRAMAS

It was a slim season for mayhem on the stage. The best of the lot was "Ten Little Indians" and "Hand in Glove." The former was a mystery-comedy dramatized by Agatha Christie from her magazine serial in which no less than eight unfortunates were done in. Claudia Morgan, Michael Whalen, and Halliwell Hobbes appeared in the play which was still going strong at the year's close. C. K. Freeman and Gerald Savory were responsible for "Hand in Glove," an English thriller of the Mrs. Belloc Lowndes school. Zasu Pitts of the movies made her Broadway stage debut in a slender melodramatic-farce, "Ramshackle Inn," by George Batson. Also in the same vein was Jane Hinton's "Meet a Boby—" which lasted for only a few performances. "The Visitor," a psychological mystery staged by Herman Shumlin, paid a brief call at Henry Miller's Theatre. Pauline Lord returned in a minor melodrama, "Sleep, My Pretty One."

REVIVALS

The year also had its customary quota of revivals. Under the directorial guidance of Margaret Webster, Eve Le Gallienne, Joseph Schildkraut, and an expert company gave a lucid and affecting production of Chekhov's "The Cherry Orchard." The show returned at the beginning of 1945 to the City Center of Music and Drama, which during 1944 had also played host to Helen Hayes in "Harriet"; Martha Scott and Marc Connelly in Thornton Wilder's "Our Town"; and a Yuletide showing of "Little Women." The Center was also the scene of the revivals of such musical shows as the George Gershwin-DuBose Heyward folk opera, "Porgy and Bess"; the New Opera Company's successful version of "The Merry Widow" with Jan Kiepura and Marta Eggerth, and Sigmund Romberg's "The New Moon."

MISCELLANEOUS SHOWS

Among the attractions presented during 1944 with varying degrees of success were: "Pick-up Girl," by Elsa Shelley, a courtroom drama dealing with the current problem of juvenile delinquency; "In Bed We Cry," Ilka Chase's dramatization of her novel in which she starred; Zoe Akins' comedy "Mrs. January and Mr. Ex" with Frank Craven and Billie Burke; "Sheppey," by W. Somerset Maugham; "The House in Paris," a drama by E. M. Green and E. A. Feilbert with the French actress Ludmilla Pitoeff; "School for Brides," by Frank Gill, Jr. and G. C. Brown; "Wallflower," by Mary Orr and Reginald Denham; "While the Sun Shines," by Terrence Ratigan; "Peepshow" by Ernest Pascal; "Suds in Your Eye," by Jack Kirkland from a novel by Mary Lasswell; "The Man Who Had All the Luck," by Arthur Miller; "Violet," by Whitfield Cook; "But Not Goodbye—," by George Seaton; "For Keeps," by F. Hugh Herbert; and "Career Angel," by Gerard M. Murray.

CENSORSHIP

Stage censorship affected two plays that reached Broadway, but in each instance the production involved had its skirmish with the censor before arriving in New York. The first play was "Men to the Sea," by Herbert Kubly, a New York newspaper reporter, that was bedeviled by the censor's shears during its tryout days in Boston and New Haven. It concerned five sailors' wives who, while their husbands were at sea, lived together in a Brooklyn rooming-house. The play failed to achieve a popular reception. "Trio," a drama by Howard and Dorothy Baker from the latter's novel, was refused a theatre in New York by the Shuberts who felt that the play's subject matter might endanger the playhouse's operating license. Later opening at the Belasco Theatre, "Trio" received divided notices and, as of the close of the year, no visit from the censor.

THE BROKERAGE INCIDENT

The year was almost a bygone chapter when License Commissioner Paul Moss had theatre managers up in arms when he issued an order forbidding houses with "hit" shows to distribute tickets through brokers. Following a united protest by the managers, Mayor LaGuardia called a meeting in his office which was attended by the Board of Governors of the New York League of Theatres and Commissioner Moss. The Mayor announced Moss would rescind his order and that there would be a more rigid enforcement of the 75-cent charge on theatre tickets sold by brokers.

THEATRE NOTES

Neither the New York Drama Critics Circle nor the Pulitzer play committee considered any of the 1943-44 plays worthy of an award, although the latter group presented a certificate of merit to the Theatre Guild's long-running musical, "Oklahoma!"

John Golden, veteran Broadway producer, made a contribution of $100,000 for the general benefit and cultural advancement of the legitimate theatre, while Clarence Derwent, actor, director, and producer presented $25,000 to Actors Equity Association for the establishment of a trust providing for two annual awards of $500 each to the best supporting male and female performers of the season.

Statistics revealed that 36 theatres were tenanted on Broadway New Year's Eve, the largest in years. Hollywood, always a lavish bidder in the Broadway play marts, purchased the screen rights to "The Voice of the Turtle" which Warner Brothers secured for $600,000 plus yielding a percentage of the net. The same producers knocked down "Life with Father" for $500,000 plus royalties, and "Junior Miss" went to Twentieth Century-Fox for $400,000. Two other plays which drew substantial bids were "Over Twenty-One," $350,000, and "Jacobowsky and the Colonel," $325,000.

MOTION PICTURES

By Bosley Crowther
Film Critic, *The New York Times*

GENERAL

Despite increasing strictures on production and shifts in the audience field, the American film industry experienced during 1944 a year of exceptional prosperity. The entertainment potential of the screen was drawn upon more eagerly than ever in this third year of a nerve-wracking war, and the medium was used for the communication of information in a manner to arouse the public mind. If there continued some pointed criticism that our screen still failed to reflect a true and dramatic comprehension of the American people at war, there was no doubt that it filled a basic function of diverting a mass audience.

This initial job of entertaining was accomplished through a bulk of film product which was marked by an uncommon number of expensive and colorful creations. Stimulated by a booming box office, the Hollywood studios were free and bold in spending money and footage on pictures which might have been just as good at less elaborate cost, but the comparative shortage in male stars and the routine quality of many of the stories used provoked the inclination towards extravagance in other items. A total of 426 feature films were completed during the year, as against 399 made the year before, and 516 during 1942. At least one-fifth of the year's product was in the "million-dollar-picture" class, which pushed production costs to a level unprecedented in Hollywood.

CONTRIBUTION TO THE WAR EFFORT

With all its extravagance and profits, the motion picture industry was, nevertheless, sincerely and solemnly active in aiding the war effort. Many of the year's feature pictures had sober and arresting war themes, and the industry distributed gratuitously a large number of government information films. These included not only "film bulletins" and various shorts, a good many of which were prepared by the Hollywood studios, but also several eminent special films, such as "The Memphis Belle," "Attack! The Battle of New Britain," and "With the Marines at Tarawa." This activity of the industry was administered by its War Activities Committee, which served as liaison with the Government and the services on all matters pertaining to the screen. While no formal program for production of informational and inspirational films was effected, the average movie theatre was seldom without some reminder of the war on its bill.

Further, the motion picture industry contributed in many ways to the furtherance of the war effort. The nation's film theatres promoted the campaigns of the Fourth, Fifth and Six War Loan drives; sponsored Red Cross collections and a WAC Recruiting Week and permitted the use of their lobbies for various service and industrial displays. Four new films were given weekly by the Hollywood studios to the Army for free distribution to bases overseas, a gift which amounted to several thousand prints of new films during the year. The Hollywood Victory Committee gave its services and performers in many fields also.

TREND TO INDEPENDENT FILM PRODUCTION

Most prominent trend in the operation of the Hollywood studios during the year was the movement of prominent producers away from the large studios to form their own independent production units. With money for film investments prevalent, many producers struck out on their own, while most of the major companies extended the system of autonomous and semi-autonomous producing units within their own studios. B. G. De Sylva stepped down as head of Paramount production to form his own independent unit. Hal Wallis and Joseph H. Hazen terminated long associations with Warner Brothers to form a producing partnership. Mervyn Le Roy, last with Metro, went to Warner as an autonomous producer there. Several other changes in personnel were notable during the year.

WARNER SECESSION FROM PRODUCERS ASSOCIATION

The most significant event of the year in inter-studio relations was the secession of Warner Brothers from the Producers Association (Hays office). Although the actual termination will not occur until May, 1945, the six-months notification which the Warners gave in November came as a bombshell in the industry. No official reason was given for the action, but the prospect of a major studio forsaking the organization through which the industry has administered its own censorship raised the question of likely departures from the rather rigid "Hays office code." There had been no apparent friction between the studio and the Code Authority on the censorship of scripts; indeed, there were no marked issues of censorship raised during the year, but observers were inclined to speculate on the likelihood of such issues during 1945. The Warners will continue to subscribe to the Code and to the Central Casting agency, maintained by the Producers Association, but will make independent deals with the labor unions and guilds.

LABOR RELATIONS

Labor relations were disturbed twice during the year. In October, there arose a jurisdictional dispute over set decorators between the Painters International and the powerful International Alliance of Theatrical Stage Employes, both AFL. Nearly 1,000 set dressers, painters, and machinists walked out of five major studios and did not return until the Regional War Labor Board certified the strike and turned the dispute over to the National Labor Relations Board for settlement in the new year.

The second dispute involved acting extras. Following a prolonged conflict within the Screen Actors Guild, the atmosphere players (or extras) chose the Screen Players Union, an unaffiliated group, to represent them in collective bargaining. A committee of the Guild notified the major studios that an actors' strike would be called if any SPU members were permitted to speak a line, sing, or do a stunt in a film. The situation was on tenderhooks at the year's end and bade fair to cause trouble later on.

The whole prospect of studio-employee relations became threatening during the year. After the Normandy invasion, when there was talk of a speedy end of the war, there was considerable agitation among the studio unions and guilds as to the future of the more than 6,000 workers now filling the jobs of former personnel called into war service. During the summer, this problem was carried to the Producers Association, passed on to the studios to settle individually, and then dropped when victory remained remote, but the question is by no means settled and lies in wait to dog the studios' future steps.

ANTI-TRUST SUITS

The year also saw further developments in the Department of Justice's anti-trust suit against the major film producers and distributors. In August, a move was made by the Department to obtain a modification of the so-called "consent degree" and to force complete divorcement of production and exhibition set-ups within three years. An interim decree was requested in December, and a trial date for the suit was sought. In the United States Supreme Court, a 5-to-1 decision upheld the anti-trust findings against the Crescent theatre chain, and other suits throughout the country indicated a restlessness under the allegedly monopolistic practices of the big industry groups.

RISE OF J. A. RANK IN ENGLAND

Aside from the limited re-opening of outlets for American films in areas formerly occupied by the enemy—notably North Africa, Italy, Belgium and France—the most provocative development in the foreign field during the year was the rise of J. Arthur Rank in England as a formidable competitor to the American industry. Rank, a wealthy British miller and financier, moved forward with concrete steps towards the establishment of a considerable international film organization by setting up Eagle-Lion Pictures as his Anglo-American unit and buying into theatre circuits in several parts of the world. Rank definitely loomed as a major-league problem after the war.

THE TEN BEST PICTURES

On the whole, the quality of pictures turned out during the year was not in any way exceptional but it proved entirely adequate. Musical pictures and comedies were plainly predominant, with films on war themes also abundant. The films selected as the ten best of the year by *The New York Times* were:

"Going My Way," a dramatic comedy, written by Frank Butler, Frank Cavett, and Leo McCarey and directed by McCarey for Paramount, with Bing Crosby, Barry Fitzgerald, and Rise Stevens in the cast.

"Hail the Conquering Hero," an uproarious satire on the war-hero theme, written and directed by Preston Sturges for Paramount and featuring Eddie Bracken, William Demarest, and Ella Raines in the cast.

"Wilson," a distinguished film biography of the First World War President, written by Lamarr Trotti and directed by Henry King for Twentieth Century Fox. Alexander Knox played the title role, and Thomas Mitchell, Geraldine Fitzgerald and Sir Cedric Hardwicke were among many who performed as contemporary characters.

"The Miracle of Morgan's Creek," a mad farce on the subject of maternity, written and directed by Preston Sturges for Paramount, also with Eddie Bracken, William Demarest, and, in this instance, Betty Hutton in the cast.

"Thirty Seconds Over Tokyo," a romantic re-enactment of the diary of Capt. Ted Lawson recounting the first air raid on Japan, prepared for the screen by Dalton Trumbo and directed by Mervyn LeRoy for Metro-Goldwyn-Mayer. Van Johnson played the role of Lawson, Spencer Tracy played Lieut. Gen. Doolittle, and Phyllis Thaxter played Mrs. Lawson.

"Meet Me in St. Louis," an enchanting musical film about family life at the turn of the century, based on sketches by Sally Benson, prepared for the screen by Irving Brecher and Fred F. Finklehoffe and directed by Vincente Minnelli for Metro-Goldwyn-Mayer. Judy Garland and Margaret O'Brien were starred.

"Destination Tokyo," a fictionized account of an American submarine's cruise in the Pacific, written by Delmar Daves and Albert Maltz and directed by the former for Warner Brothers. Cary Grant and John Garfield had principal roles.

"The Purple Heart," a drama of the trial of captured American fliers in Japan, written by Jerome Cady and Melville Crossman (Darryl F. Zanuck) and directed by Lewis Milestone for Twentieth Century-Fox, with Dana Andrews and Sam Levene in top roles.

"National Velvet," a tender and exciting romance about two English youngsters and a race horse, from a novel by Enid Bagnold, with screen play by Theodore Reeves and Helen Deutsch and directed by Clarence Brown for Metro-Goldwyn-Mayer. Mickey Rooney and Elizabeth Taylor played the youngsters.

"None But the Lonely Heart," a poetic drama of London slum life, from the novel by Richard Llewellyn, written and directed by Clifford Odets for RKO-Radio and played by Cary Grant, Ethel Barrymore, June Duprez, and Barry Fitzgerald.

CRITICS' LIST OF BEST FILMS

Eight of the above-named films—"Going My Way," "Meet Me in St. Louis," "Wilson," "The Miracle of Morgan's Creek," "Hail the Conquering Hero," "National Velvet," "The Purple Heart," and "Destination Tokyo"—were included in the consensus of the year's top films, compiled from the selections of seven New York film critics. Also on the latter list were "Double Indemnity," a realistic melodrama, produced by Paramount; "Laura," a suave mystery drama, produced by Twentieth Century-Fox; "The Song of Bernadette," a picturization of Franz Werfel's novel of the Lourdes miracle, produced by Twentieth Century-Fox, and "Dragon Seed," a dramatization of Pearl Buck's story of modern China, produced by Metro-Goldwyn-Mayer.

As evidence of the proportion of films with war themes in the year's crop, it is notable that only three of the 12 above-mentioned treated directly upon the subject, and two—"Wilson" and "Hail the Conquering Hero"—were indirectly concerned therewith. Other of the year's acceptable war films were "Gung Ho!" "Winged Victory," and "Wing and a Prayer," while "Since You Went Away," was a popular fictionization of life on the home-front.

MUSICAL FILMS

Among the year's more distinguished musicals—distinguished either for quality or size—were "The Song of Russia," "Two Girls and a Sailor," "Cover Girl," "Lady in the Dark," "Bathing Beauty," "Irish Eyes Are Smiling," and "Up in Arms." "See Here, Private Hargrove," "Home in Indiana," "The Sullivans," and "To Have and Have Not" were well-deserving entertainment pictures.

THE CONTROVERSIAL "LIFEBOAT"

Most controversial film of the year was "Lifeboat," a realistic drama, directed by Alfred Hitchcock for Twentieth Century-Fox, which told a story of a group of torpedoed Americans and Britishers adrift in a lifeboat with a lone submarine captain. It was based upon an original story by John Steinbeck, which was considerably altered by Jo Swerling in preparing the screen play. When this film opened in New York, it was greeted with a violently divided press. Several critics hailed it as an outstanding drama of men against the sea, but others, acknowledging its technical excellence, felt that it so emphasized the efficiency of the Nazi submarine captain in contrast to the squabbling and bungling of the other survivors that it constituted a decidedly unfortunate picture of democratic peoples. This division of opinion was evident generally in the press reviews throughout the nation, and many distinguished columnists—notably Dorothy Thompson—extended themselves to comment on the film. However, it proved a very popular film at the box-office. Whether it had any demoralizing effects was a matter of conjecture at the year's end.

FACTUAL WAR FILMS

Not included in the above-listed pictures are the several factual war films, made by the fighting services in actual combat, which had wide distribution on theatre screens. Most impressive of these were "The Memphis Belle," a 40-minute account of a bombing raid over Germany by an Eighth Air Force bomber, made for the Army Air Forces under the direction of Major William Wyler; "Attack! The Battle of New Britain," a 54-minute report of the amphibious assaults on Arawe and Cape Gloucester, made by the War Department, under the supervision of Lieut. Col. Robert Presnell, and "With the Marines at Tarawa," a 20-minute review of the desperate conquest of that island by the Navy and Marines. All of these films were vivid, hard-hitting, and exciting in their graphic picturing of real war. Other short films were released from time to time during the year, reporting on various phases of the global war; and the newsreels kept the public moderately well supplied with pictorial glimpses. The best newsreel of the year was the extensive report on the liberation of Paris, most of which footage was shot by French "underground" cameramen in Paris before the liberating armies arrived, and showed the nature of the street fighting between the FFI and the Nazi occupants.

"GOING MY WAY"

Of all the year's films, however, the New York Film Critics selected as the best "Going My Way," the previously listed Paramount Picture, which told the genial tale of two priests in a poor New York parish—one of them a progressive young man and the other an old and crusty padre. Barry Fitzgerald, who played the latter, was selected as the best actor of the year on the basis of this performance, and Leo McCarey, who directed the film, was named as the year's best director. Tallulah Bankhead, who had the role of an ultra-sophisticated woman in "Lifeboat," was named the best actress of the year, and special recognition was given to the Army for its excellent factual films.

Bing Crosby, co-star in "Going My Way," was named the top-money-making star of the year in a poll of theatremen which is annually taken by the *Motion Picture Herald,* a trade paper. Following Crosby, in order, were Gary Cooper, Bob Hope, Betty Grable, Spencer Tracy, Greer Garson, Humphrey Bogart, Abbott and Costello, Cary Grant, and Bette Davis.

"Going My Way" was the year's top-money making picture, earning an estimated gross of $8,000,000.

SCREEN NEWCOMERS

Among the newcomers who appeared to great advantage during the year were Jennifer Jones, as the young girl in "The Song of Bernadette"; Van Johnson in "A Guy Named Joe" and "Thirty Seconds Over Tokyo"; Alexander Knox in "Wilson"; Sonny Tufts in "I Love a Soldier"; Danny Kaye in "Up in Arms"; Lauren Bacall in "To Have and Have Not"; John Hodiak in "Lifeboat"; and Elizabeth Taylor in "National Velvet."

PERIODICAL PUBLICATIONS

American Cinematographer
1782 North Orange Drive, Hollywood, Calif.
American Home, The
444 Madison Ave., New York City.
American Journal of Archaeology
Archaeological Institute of America, Columbia University, New York City.
Antiques Magazine
40 East 49th Street, New York City.
Architectural Forum
20 W. 45th Street, New York City.
Architectural Record
19 W. 44th St., New York City.
Art Digest, Inc.
116 East 59th Street, New York City.
Art News
136 East 57th Street, New York City.
Billboard, The
1564 Broadway, New York City.
Design
243 N. High St., Columbus, O.
Equity
45 W. 47th St., New York City.
Etude
1712 Chestnut Street, Philadelphia.
House and Garden
420 Lexington Ave., New York City.
Modern Music
113 West 57th Street, New York City.
Motion Picture Herald
Rockefeller Center, New York City.
Museum News
Smithsonian Institution, Washington, D. C.
Musical Courier
119 West 57th Street, New York City.
Musical Digest
119 West 57th Street, New York City.
Musician, The
139 E. 47th Street, New York City.
Octagon, The
New York Ave., Washington, D. C.
Parnassus
625 Madison Ave., New York City.
Theatre Arts Monthly
130 W. 56th St., New York City.
Variety
154 West 46th Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

ACADEMY OF MOTION PICTURE ARTS AND SCIENCES, Taft Bldg., Hollywood, Calif.
AMERICAN ACADEMY OF ARTS AND LETTERS, 633 W. 155th St., New York City.
AMERICAN ACADEMY OF ARTS AND SCIENCES, 28 Newbury St., Boston.
AMERICAN ACADEMY IN ROME, 101 Park Ave., New York City.
AMERICAN CERAMIC SOCIETY, 2525 N. High St., Columbus, Ohio.
AMERICAN FEDERATION OF ARTS, THE, Barr Bldg., Farragut Sq., Washington, D. C.
AMERICAN FINE ARTS SOCIETY, 215 W. 57th St., New York City.

American Institute of Architects, 115 E. 40th St., New York City.

American Numismatic Society, 156th St. and Broadway, New York City.

American Scenic and Historic Preservation Society, 287 Convent Ave., New York City.

Archaeological Institute of America, Columbia University, New York City.

Architectural League of New York, 115 E. 40th St., New York City.

Artists Guild, 551 Fifth Ave., New York City.

Fine Arts Federation of New York, 115 W. 40th St., New York City.

Graphic Arts Board of Trade, 136 Liberty St., New York City.

Hispanic Society of America, The, 155th St., West of Broadway, New York City.

Municipal Art Society of New York, 119 E. 19th St., New York City.

National Academy of Design, 175 W. 109th St., New York City.

National Alliance of Art & Industry, 119 E. 19th St., New York City.

National Assn. of Women Artists, 42 W. 57th St., New York City.

National Institute of Arts and Letters, 633 W. 155th St., New York City.

National Sculpture Society, 115 E. 40th St., New York City.

New York Society of Architects, 101 Park Ave., New York City.

Society for American Archaeology, Illinois State Museum, Springfield, Ill.

Society of Illustrators, Inc., 128 E. 63rd St., New York City.

Society of Independent Artists, 19 Bethune St., New York City.

DRAMA

Actors Equity Assn., 45 W. 47th St., New York City.

Actors Fund of America, 1619 Broadway, New York City.

Dramatists' Guild, 6 East 39th St., New York City.

English Folk Dance and Song Society of America, 15 E. 40th St., New York City.

Episcopal Actors Guild, 1 E. 29th St., New York City.

Independent Theatre Owners Assn., Hotel Astor, New York City.

International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, 630 Fifth Ave., New York City.

International Theatrical Play Bureau, RCA Bldg., New York City.

League of New York Theatre, 234 W. 44th St., New York City.

Motion Picture Producers and Distributors of America, Inc., 28 W. 44th St., New York City.

Motion Picture Producers Assn., Hollywood, Calif.

Motion Picture Theatre Owners of America, 1600 Broadway, New York City.

Museum of the City of New York, Theatre Div., Fifth Ave. and 104th St., New York City.

New York Public Library, Theatre Div., Fifth Ave. and 42nd St., New York City.

Screen Actors Guild, 7046 Hollywood Boulevard, Hollywood, Calif.

Theatre Authority, Inc., 545 Fifth Ave., New York City.

Theatre Guild, Inc., 245 W. 52nd St., New York City.

MUSIC

American Federation of Musicians, 570 Lexington Ave., New York City.

American Guild of Musical Artists, Inc., 2 W. 45th St., New York City.

American Guild of Organists, 630 Fifth Ave., New York City.

American Society of Composers, Authors, and Publishers, 30 Rockefeller Plaza, New York City.

Cantors' Registry, 36 E. 7th Street, New York City.

Grand Opera Guild, 250 W. 57th St., New York City.

National Bureau for the Advancement of Music, Inc., 315 Fourth Ave., New York City.

National Music League, 130 W. 56th St., New York City.

Oratorio Society of New York, 113 W. 57th St., New York City.

Philharmonic Symphony Society of New York, 113 W. 57th St., New York City.

DIVISION XXVII

EDUCATION

ELEMENTARY EDUCATION

By Wilma Leslie Garnett and Agnes Sawyer
Kent State University

GENERAL

Elementary education (1944) is in a state of transition in the United States. The philosophical questions coming to the front are indicative of this periodic change. More Americans are today concerned about elementary education than heretofore. Certain of the Federal agencies set up to carry on the war and its activities are focusing attention on education at all levels—including the elementary. The agencies concerned are making this country conscious of educational needs, of goals to be realized in such areas as these: nursery or pre-school education; education for home life; education for a functional type of world citizenship; consumer education; education on conservation; education through literature, music, painting, architecture, and drama; functional education in science and health; and education for creative thinking. There are at least 25 Federal agencies concerned with phases of education, besides the state and local agencies, both public and private.

FOREIGN INFLUENCES

The negative example of Germany's power as built up by an educational program over one generation has given American educators pause to think. If negative power can be developed in 25 years by educating a generation from infancy on, why not positive? Looking about for positive examples, the Americans have seen Russia's program of nursery school education progressing rapidly, bounding ahead of the American system; they have observed the effectiveness of England's functional program of mental and physical health education; they have recognized the opportunities Russia, especially, is giving to the geniuses and talented young people; they have witnessed the development of a high state of morale among the Scandinavian children. As never before, Americans are becoming conscious of the importance of early and intermediate childhood education. One new Federal agency, the Office of Civilian Defense, seems almost destined to be an American institution that may serve as a clearing house and community or lay advisory group to give new direction to education in this country. The Office of Civilian Defense, through its local child-care committees, like the town-meeting group in the New England of old, may be the wakening force and the guiding influence in American childhood education of the future.

POST-WAR ISSUES IN ELEMENTARY EDUCATION

Dr. J. Cayce Morrison gives an effective presentation of some of the issues being raised for post-war elementary education ("Some Issues for Post-war Elementary Education," *The Elementary School Journal,* Volume XLV, No. 1, Sept. 1944, pp. 15-22). He says the paramount issue is that of redefining the philosophy of elementary school education. The other issues are: What shall the elementary school do to insure every child's optimum physical development? Can we have a post-war elementary school that will eliminate causes of delinquency? Will the elementary school adjust its standards of promotion to the natural growth of individuals . . . ? To help every child gain the best possible start in life, the elementary school must be extended downward to include the nursery school and must provide parent education. What shall we teach our children concerning war and peace? Shall the elementary school indoctrinate children in social, economic, and international beliefs? In the greatest age of science, children must be taught something about natural phenomena. Teachers need preparation for teaching this subject. Whatever culture, whatever love of beauty, whatever appreciation of aesthetics we want in American life—that we must begin to develop in young children. The elementary school can contribute much more than it has done heretofore in laying the foundations of, and in creating the desire for, scholarship. The methods of the elementary school should be keyed to developing the kind of people we want Americans to be, should be keyed to the aspirations and needs of free men.

Essences of the new education for a better world order can ascend from the ideals or goals implied in the foregoing statements. The hidden implication in the last point made by Dr. Morrison, and, by far, the most important is this: to give each young American a chance to use as much of the creative power within him as a favorable environment can call forth.

First of all, it seems that the paramount issue is before the American people because the schools in trying to do everything called for by the many pressure groups seem to be losing sight of the fundamental purposes for which the schools for children have been established. The common public schools should be operated to teach children those things which all Americans should know. The content of the elementary and high school program should include health education, science, mathematics, language arts, fine and industrial arts, home arts, and general shop work, according to rather conservative educators. Less conservative educators open their philosophy in relation to what should be taught to include in elementary education such welfare services as camp life, school meals, supervised recreation. If the latter point of philosophy is subscribed to, there will, of necessity, be demands for much larger school appropriations.

EXPENDITURES AND ESTIMATES

As reported by the National Resources Planning Board, the 1940 expenditures as compared with a justifiable estimate of minimum annual expenditures for education in the post-war period would be as given in the following table:

CURRENT EXPENDITURES FOR EDUCATION IN THE UNITED STATES IN 1940, AND ESTIMATED JUSTIFIABLE MINIMUM ANNUAL EXPENDITURES IN THE POST-WAR PERIOD

(Millions of dollars—1940 purchasing power.)*

	Expenditure	Post-war Period
Preschool, elementary school, and high school	2,158	3,900
Junior College	26	400
College, university, and professional and technical school	460	1,000
Adult education provided by schools and higher institutions	57	300
Student aid	66	300
Public library	50	200
Total	2,817	6,100

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* Source: National Resources Planning Board, *National Resources Development* (Report for 1943: Part I. Post-war Plan and Program, p. 73. Washington: Government Printing Office, 1943, Calvin Grieder, "The 'Common' School—A Return to Fundamentals"). *Educational Administration and Supervision*, Vol. XXX, No. 5, May, 1944 (pp. 290).

Can Americans expand their philosophy of education to include expenditures for welfare, recreation, religious education, job-training centers? If they can, should they; or should certain new phases of educational work be left to such agencies and institutions (other than the schools) as churches, welfare organizations, theaters, industry, radio, recreational organizations, and clubs for children? These are live questions bearing on a fundamental question of philosophy related to what elementary education in the United States should include.

EDUCATIONAL SCOPE AND PHILOSOPHY

Some educators are going so far as to recommend the reshaping of the elementary school program to include all the *basic fundamentals* of education for citizenship (as that education is conceived) to cover health, science, arithmetic, language and literature, fine arts (impressive and creative) in five years in place of six. Other phases of education would be in charge of public agencies other than the schools. Other issues mentioned by Dr. Morrison as coming up for immediate consideration, those of the teaching in the fine arts and in the creative fields, seem most in need of attention as being means to a great end, that of promoting world amity. As Carroll Champlin puts it, there is need for lend-lease in cultural areas, and he says: "The exigencies of war pressure have forced the forty-four United Nations to be tolerant and forgiving of the many mistakes that have been made in the past and to cooperate in clearing the sea lanes and the skyways for prompt and large-scale delivery of essential borrow-or-buy, V-for-victory, lend-lease merchandise. Sometime we shall be faced with the question of our ability to be equivalently efficient in conducting our academic and institutional affairs for the mutual advantages and inspiration of all involved.

"A few activities worthy of experimentation at the beginning could be the following: making each nation's literature available over a broader area and providing a larger number of translations for the rank and file of readers; holding more numerous and accessible cultural expositions; featuring achievements in art, music, science, and intellectual fields in general; conducting forums for the purpose of discussing freely the pressing problems of interracial and international welfare; appropriating funds for the sending of educational missions to observe and learn how other countries are administering their schools; giving restrained publicity to the academic attainments of various types of students in every department of the curriculum; encouraging private philanthropies and endowments to contribute to programs for achieving a better understanding among both distantly separated countries and those that have long been neighbors; and, finally, inviting fresh forms of expression from new sources of inspiration to smooth over the mutilations and scars caused by the two major wars of the twentieth century." (Carroll D. Champlin, "Post-war Educational Lend-Lease," *The Elementary School Journal,* Volume XLV, Number 1, Sept. 1944, pp. 39-44.)

This last set of points on post-war education is most significant as an enunciation of educational philosophy. Education directed toward an understanding of the arts and the philosophy back of them for the nations of the world would hold some promise in assuring the world a period of peace. Such education would be directed toward a study of the important spiritual values.

Applying this concept of the function of education at the elementary level, one unit of study in literature and music might be mentioned as typical of the better ways of promoting world friendship—a unit on Russia. Maps, pictures, works of art, programs, talks, films, records—all these would be used, in addition to reading materials, to inform children correctly about Russia. After all, currents of ideas are so fluid that they move easily from painting to literature, to the dance, and to music. These currents make up the "importances" to be studied about peoples, even by elementary children, according to the new educational philosophy which is emerging.

LEGISLATION

Points of philosophy for the new education find expression in legislation or in plans for legislation. One important legislative proposal now is that of Senate Bill 637. On Sept. 21, the bill was reported out by the Committee on Education and Labor without the Langer Amendment, which had defeated the original purpose of the bill by calling for Federal control of state funds. The bill as it now stands offers Federal aid to states to equalize opportunity for public education. The companion bill in the House, HR2849, is still before the House Education Committee.

This is probably the most significant Federal legislation involving elementary education before the Congress at the present time. Legislation making possible grants for extended school service, nursery school education, and school luncheon programs, in addition to those grants originally made, have been in effect for some time.

In all state and Federal legislation for education, there seems to be appearing the question of states rights. A balance of some kind will be found on this question of philosophy in political science at every time of decision. The leaning is toward the Jeffersonian ideal. Democracy must (to function properly) place the good of the individual first. The local community and the state are, it appears, excellent units for directing so powerful a force as education in a democracy.

NEW STATE PROGRAMS ON EDUCATION

As though inspired by the Educational Policies Commission, many states have committees working out new programs of education. In Ohio, for example, one such program has come out in published form as sponsored by the Conference of the Deans of Education for the five state universities, The Ohio Superintendents' Association, The Ohio Education Association, and The Ohio State Department of Education.

Some of the important educational conferences of the year which gave special attention to problems of elementary education were those of the National Council of Teachers of English and the National Council for the Social Studies. Topics from the field of elementary education treated in the programs include Growth in Language Arts at the Elementary Level, Research in Language as Related to Child Development, New Horizons through Recent Research in Reading, Stimulating Creative Teaching, Securing an Adequate Book Supply, Reading and the Treatment of Personality Disorders, Current Problems in Reading in the Elementary School, Developing Independence in Reading through Recognition of Context Clues, Problems of Primary Reading, The Function of Literature in the Elementary School, Development of Language Power in the Elementary School, The Development of Vocabulary, Creative Writing, Interrelationships of Reading and Spelling, Punctuation and Thinking, Developing Skill in Correct Usage, Audio-visual Aids in Teaching English, Better Use of Textbooks, Effective Classroom Use of Audio-visual Aids, Integrating State and Local Materials into the American History Course, Balance between the Local Community and Study of Wider Areas (Middle Grades), Home and Family Living, Out-of-School Agencies that Promote Social Education, American Relations with the Soviet Union, America's Understanding of China, Implementation of the Social Studies to Look Beyond the Peace, World History and Geography, and The Social Sciences in the Program of Teacher Education.

REGIONAL MEETINGS

In place of the general meeting of the American Association of School Administrators, the year witnessed regional meetings in the Far West, the Southwest, the Central, the Southeast, and the East. The AASA, as sponsoring organization, arranged for the general meetings. The affiliated organizations from the given regions joined the sponsoring groups as usual, those especially interested in elementary education being the Association for Childhood Education, the Elementary School Principals, the Department of Supervisors, the Rural Teachers. It goes without saying that much of what is learned in these meetings to the benefit of the schools is learned at the exhibits of books and equipment.

INTERNATIONAL PHASES

Aroused interest in an educational and cultural organization, international in its scope, has included consideration of the elementary schools. Phases of the elementary school problem considered include: education for world citizenship, ensuring for all teachers a period of training that will make for closer contact with the lives of people, raising the status of the teacher to that of other professions, utilization of books, radio, visual aids, exhibits, museums in educational programs, exchanges of students, teachers, materials among countries, and granting aid to youth movements.

TEACHER RECRUITMENT

The teacher recruitment and education problems are two of the most crucial this country is facing. According to a February (1944) research bulletin from the National Education Association, the condition in general for the country is this:

> ". . . To the extent that our data are representative the number of students prepared for teaching service during 1942-43 was 20 per cent lower than for the preceding year and 32 per cent lower than in prewar days. The estimated number who will be prepared for teaching service during 1943-44 is 36 per cent lower than the corresponding group for 1942-43, 48 per cent lower than for 1941-42, and 56 per cent lower than for a typical prewar year.
>
> "If it is assumed that this ratio is also true for teachers colleges and normal schools throughout the country, and if the total enrollment in October 1943 was reasonably well estimated in Section II of this bulletin, the teachers colleges of the nation will send out only about 18,000 students in 1943-44 prepared to take up service in the nation's schools. Just what part of this number already are full-fledged members of the profession, and what portion of them will follow other interests instead of actually entering the profession, we are unable here even to suggest. But if all 18,000 are assumed to be potential teachers, and if this represents half the nation's annual supply—as the teachers college output is estimated to be—those prepared for educational service in 1943-44 will equal only about half the estimated teacher shortage for the same year." ("The Outlook in Teacher Education," *National Education Association Research Bulletin,* Vol. XXII, No. 1, February 1944, pp. 31-32.)

Some attempts are being made by colleges and universities to recruit teachers for the profession; but these are all too inadequate and ineffectual. There are reports available from many teacher-training institutions the country over to the effect that enrollments in elementary education are very low.

The greatest shortages of teacher supply are in the fields of high school science, high school mathematics, and the elementary schools. There is a great shortage indicated in the supply of teachers for rural schools.

STATE OF THE RURAL SCHOOLS

While mentioning rural schools, the status of education there may be presented from the 1944 White House Conference on Rural Education. One great drawback in that field is that inherent in low salaries. The average salary for rural teachers is $967, as compared with $1,937 for city teachers. Total expenditure for rural schools per pupil is $86 on an average; for urban schools it is $124. Thousands of rural teachers receive less than $50 per month. Thousands of rural teachers have not completed high school. It is the consensus of opinion that a program of expanded financing is essential to the well-being of rural schools. A minimum of $1,000,000 would be needed to begin the attack through the offering of better salaries and by providing buildings where no buildings have been provided. It is hard to believe that the poor conditions set up for educational work with children are contributing to the low attendance figures. The 750,000 children of elementary school age not attending school today should be interested in doing so.

The concepts emerging from the White House Conference on Rural Education envision these ideals: provide education for all rural Americans; produce well-developed personalities; strive for community life that supports the democratic way; demand well-prepared teachers; provide adequate buildings; provide for adequate financial support; and unite all community forces in the educational program.

SCHOOLS AND LIBRARIES

The noticeable developments in elementary education in the United States at this time are in the areas described briefly in the following notes. Post-war planning of building and equipping programs, of curriculum developments, and of philosophical understandings are evolving the nation over with these areas as points of departure:

Among the trends noted in the magazine articles dealing with practices in elementary education is one of great significance—closer relationships are being effected between schools and libraries. In some states, the county has been made the unit of operation for library service connected with the schools.

COMMUNITY PROGRAMS

The school is becoming the community center in one region after another and under various stimulating conditions. Some of the special community programs centered in the school are health clinics, town programs, forums, information bureau for the community, community work programs, adult courses suited to the environment, weather bureau service, and war service planning. Elements of the community school program counted essential are: The community resources and problems are recognized; the teacher is a member of the community; the program is flexible and is subject to change; instructional materials related to the local community are prepared; the program is coordinated with programs of other community agencies; and the results of the program are evident in the community.

CHILD-CARE CENTERS

Child-care centers have prospered over the past few years and will undoubtedly be the source from which a broad nursery school program and a revised early elementary school program will arise. The United States Office of Education and the Federal Works Agency have sponsored the development of these child-care centers.

Originally opened to care for the children of working mothers, these schools are making for themselves a permanent place in the educational programs for children. The right foods, the proper routines for balance of activity and rest, health inspection, the right social guidance—all these are provided in the best of the nursery schools. It is difficult to estimate the number of these new centers now open but the number is significant. Even so there are not so many American children given this protection as there are Russian children. This, too, is, or should be, significant to Americans.

SCHOOLHOUSE PLANNING

Committees, national, state, and local are giving attention to schoolhouse planning for the post-war period. Plans are coming from architects as budgetary programs are set up calling for new buildings and additional school grounds. The elementary schools of post-war planning must include space in the buildings for health facilities, rest and sleeping rooms, lunchrooms, auditoriums, kindergarten rooms, gymnasiums, science rooms, music rooms, and libraries, in addition to the classrooms usually provided. In some elementary school buildings there will be space provided for clinical work in various subjects. Too, there will be nursery schoolrooms in many of the buildings.

Modernistic designing, it seems, is predominant. Better provisions are being made for heating, lighting, and cleaning than ever before. Even though severe in lines, the schools are becoming informal and homelike. Rooms with cozy fireplaces, comfortable chairs, and little tables invite reading and conversing together on the part of the young children. The school building is being made an integral part of beautiful school grounds—interesting grounds. In good weather, school classes can move easily to the out-of-doors for natural science, art, dramatic, and practical work. The new school for little children is moving beyond classroom walls to school grounds, and then to the community here in America.

RADIO PROGRAMS

Radio programs are being included in school programs as sponsored by libraries, state departments of education, and other agencies. These programs will, no doubt, be expanded as the newer kinds of equipment and better programs are made available to the schools after the war. Ohio, Tennessee, and other states are already experimenting in this field—developing, in cooperation with the United States Office of Education, some good programs for elementary children.

VISUAL AIDS

Films and other visual aid materials—especially maps and graphs—are becoming more common in the schools. Post-war releases will make for wider use of this avenue of learning. Universities and state departments of education are bending some of their efforts in this direction.

REPORT CARDS

Report card problems are pressing for attention as the increasing dissatisfaction with abstract percentage and letter systems become more and more pronounced. The new systems of evaluation are somewhat personal and include a regard for the building character traits positive in nature. Good citizenship, including world citizenship, is an essential part of the elementary program.

INTELLECTUAL AND CULTURAL AIDS

More and more books—single copies of great books for each classroom—are in demand. Publishers of books are bringing out, more and more, fine books for children—new editions of old books, as well as new books. Libraries and schools are cooperating. Bookstores have become interested. Life all over the world is becoming of concern to children through the interchange of translations of juvenile books from here, there, and everywhere. Perhaps the interest in these books will provide the "drive" to learn necessary to those who are to become readers; possibly the books read will be sources of inspiration for international understandings on friendly bases! If so, there may yet be a period of peace—one that may last through the next generation, if the elementary children of today can focus their attention in the crucial early years on the arts of peace all over the world, as revealed in the books for children, the art, the music, the dance, and the drama.

JUVENILE DELINQUENCY

To prevent delinquency and promote good citizenship schools and courts and industry are working together. Judges of juvenile courts are pioneering in most helpful educational programs with the cases coming to them—placing emphasis on prevention of delinquency.

CHILDREN IN THE WAR EFFORT

America's young school children are assisting directly with the war effort by giving community service in salvaging campaigns, in sharing books and magazines with service centers, in assisting with rationing records, and in raising money. School children presented 13,500 planes, 44,700 jeeps, and other war equipment, to the value of $510,000,000 through the purchase of War Bonds during the school year ended in June, 1944.

BROADER ASPECTS OF EDUCATION

New books on elementary education are listed in the various bibliographies included in the current professional periodicals. Significant is the work reviewed in a recent issue of *The New York Times,* significant because it touches the heart of the problem:

> "To develop adequate teachers for the post-war era, colleges and other training institutions must stress the broader aspects of a student's education and his relationship to the community at large. The teacher of tomorrow will need to do more than master a given subject and direct the learning of a specific group of young people. That is the conclusion reached by the Commission on Teacher Education, whose latest report, a comprehensive 311-page volume on *The College and Teacher Education,* was made public. . . .
>
> "Tomorrow's teachers, the report maintains, will be called upon to work with other community agencies and organizations in devising programs to raise the quality of living in that community. They will need to develop the capacity to see broad issues—whether it is the growing child, the curriculum, the school unity, or the social environment of which the school is a part." (Benjamin Fine, "Education in Review," *The New York Times,* Dec. 17, 1944, p. E9.)

The readings from books should be supplemented by those in the professional magazines and by a study of theses on elementary education coming from the important graduate schools of the country.

CONTENT OF NEW EDUCATIONAL PROGRAM

In summary, it may be said that in elementary education, the United States in these troubled times is evaluating the programs followed; the country is then planning for the post-war period programs that will capitalize on the good findings here and elsewhere. The new program will be designed on these lines as indicated by plans made in Michigan (Eugene B. Elliott, "Michigan's Schools Plan for the Future," *The Nation's Schools,* Vol. 33, No. 4, April 1944, pp. 26-27) for the most important people living in 1944-1945, the elementary school children of the United States:

> "Place the administrative control of state-supported elementary and secondary schools under the state board of education.
>
> "Put into practice the nine goals of education stressing social and personal relationships under our form of government.
>
> "Provide adequate elementary and secondary instruction for all.
>
> "Require school districts to purchase instructional supplies as a part of operational costs.
>
> "Encourage smaller classes for the less mature.
>
> "Limit elementary education to the end of the sixth grade; extend secondary education to include the fourteenth.
>
> "Extend compulsory education to include ages 6 through 18; provide immediate legislation to protect working children.
>
> "Provide satisfactory working conditions for teachers.
>
> "Provide adequate and uniform teaching rewards.
>
> "Make the rewards for nonteaching personnel sufficiently large to attract persons of ability and character.
>
> "Require the state to devise school plant standards for instructional efficiency and sanitation.
>
> "Require local schools to cooperate with community health authorities.
>
> "Urge schools to cooperate with feeding programs.

"Provide library services essential to the instructional program and cooperate with community library services.

"Provide for cooperation in the total recreational program.

"Provide for local records by setting aside from 1 to 5 per cent of school operation costs.

"Charge the department of public instruction with the responsibility of interpreting local educational needs on the state level.

"Reserve from 5 to 10 per cent of the budget of the department of public instruction for research.

"Provide a state school finance policy possessing the qualities of stability, adequacy and flexibility.

"Distribute school aid to provide a maximum equalization of tax burdens to achieve equalization of educational opportunity.

"Provide funds for bringing local assessments more nearly into line with cash values."

Undoubtedly there will be a reshifting of population. When people are again settled and living somewhat normally in their own homes, one can expect to find the community schools for children including programs for children of nursery school age on through high school. One can expect to find daily programs in the elementary school including health and science, social science, arithmetic, the language arts, music, art. Social science will include history, geography, and citizenship. Programs of instruction will be both individualized and socialized.

SECONDARY EDUCATION

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ENROLLMENT

The estimated high school enrollment for the school year 1944-45 was 5,461,000 in public schools and 434,000 in private schools, a total of 5,895,000. This figure represents a slight increase compared to enrollment for the school year 1943-44. Enrollment for 1943-44 had decreased approximately ten per cent from 1942-43. This decline represented a decrease of 15 per cent in boys and five per cent in girls. High school summer session enrollment increased considerably in 1944. (Circular 227, 1944. U. S. Office of Education.)

A national "Go to School" drive, which was launched in the fall of 1944, was perhaps in part responsible for halting the downward trend in enrollment. Leadership in the "Back to School" drive was furnished by the Children's Bureau of the Department of Labor working jointly with the United States Office of Education. The Office of War Information, the War Manpower Commission, and the Army and Navy also cooperated in the drive. Further support was furnished by the nation's press and state and local civic groups. Encouragement was given to students to work out programs of part time work and part time school attendance in order to avoid dropping school altogether. (*National Go-to-School Drive, 1944-45.* U. S. Dept. of Labor and U. S. Office of Education.) States were encouraged not to permit child labor standards to fall below those prescribed by the Federal Fair Labor Standard Act. Local officials were urged never to issue work certificates permitting children under 14 to drop out of school. Credit for work experience was suggested only at senior high school levels, with the work experience to be carefully supervised and correlated with the school program. (*Education for Victory,* Feb. 19, 1944.)

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* The writers are indebted to the secretaries of state secondary school principals' associations for furnishing information on developments in the various states.

TEACHER SHORTAGE AND SALARIES

According to the United States Office of Education there were 7,700 unfilled teaching positions at the beginning of the 1943-44 school year (Oct. 1, 1943). Of the 841,500 positions for which there were teachers only 671,800 (80 per cent) were held by experienced teachers in the same school systems in which they had taught the previous year; 37,600 (4 per cent) were held by experienced teachers who were in a different school system: and 132,100 (16 per cent) were held either by recent graduates of teacher training institutions on their first job, or by former teachers who had returned to the class room. About 56,900 of these had substandard training and were employed on emergency certificates good for one year. (*Education for Victory,* Jan. 20, 1944.)

In 1943-44 more than 50,000 emergency teaching certificates were issued partially to fill the gap. In addition, thousands of positions were abolished, important subjects were dropped, and classrooms were overcrowded. To meet the emergency 1,389 schools reporting to the Office of Education gave the following methods as most often used: increasing salaries locally, 83 per cent; reinstating married teachers, 57 per cent; replacing men with women, 40 per cent; employing teachers from other systems, 35 per cent; employing inexperienced teachers, 28 per cent; recalling retired teachers, 16 per cent; employing out-of-state teachers, 16 per cent. (*Education for Victory,* Jan. 20, 1944.)

Although increasing numbers of teachers have a college education or master's degree, the national average for teachers' salaries in 1942-43 was only $1,550, and the average for rural teachers was $967. At the same time, the average salary of Federal Government employees, excluding military personnel, was $2,235, and that of employees in manufacturing industries $2,363. Teachers' salaries have risen less than ten per cent since August, 1939, while living costs have risen at least 25 to 35 per cent—some estimates are as high as 45 per cent—during the same period. (*Education . . . A Mighty Force.* National Education Association.)

CURRICULUM

Physics and Other Courses.—In 1943-44 physics had the greatest gain in enrollment of any subject—over 11 per cent. This gain was made in spite of the fact that there were 15.2 per cent fewer boys and 5.2 per cent fewer girls available to take the subject. Mathematics enrollment registered a gain as was true of girls' enrollment in agriculture, industrial arts, and physical education. Enrollment in shorthand for boys decreased 24.2 per cent.

Aviation.—The importance of aviation education for peacetime as well as wartime was given emphasis. In Connecticut, 75 out of 99 high schools offered courses in aviation science. It should be noted, however, that preflight aeronautics as a subject to prepare boys for the war effort was given less emphasis in 1944 than in 1943. Enrollment in this subject decreased 17.1 per cent. Most of the loss in preflight aeronautics was in rural districts and in small cities where adequate equipment was not available to carry on the work. Enrollment in the subject had increased 1,248 per cent in 1942 over the enrollment in 1941.

Special Army Courses.—During 1943-44, fundamentals of electricity, fundamentals of shop work, pre-induction mathematics, basic radio code and driver education—all special courses based on army syllabi—were offered in many schools. Three hundred and ninety-four school systems had an enrollment of 35,435 boys in fundamentals of shop work. (Circular 227, 1944. U. S. Office of Education.)

Health.—Considerable emphasis was given to physical education and health in the various states. In spite of these efforts, however, to stimulate the development of physical education classes for all high school pupils, only one-half the boys and fewer than half the girls in the last two years of high school are now receiving organized instruction. Instruction in health education is being given to a still smaller per cent. (The *Clearing House,* February, 1944, p. 32.)

SOCIAL AND POLITICAL PROBLEMS

During 1944 appeals were made to educators not to permit the present emphasis on science and technical training to become permanent at the sacrifice of the less technical aspects of the curriculum. During the year many attempts were made to include in the high school curriculum study of current domestic and international problems. This was done not only to assist in the war effort but also with the recognition that the school curriculum should permit boys and girls to study the important problems of the society of which they are a part, whether it be wartime or peacetime.

In Maine curriculum units were developed on Latin America, Cancer Control, and Wartime Living Problems. To assist the local schools the state department of education in Maine has issued suggested units on "Our Part in Controlling Inflation" and "How to Live in a War Time Economy."

Through cooperation with the Junior Red Cross many schools have included in their curricula opportunity for the making of products which are used in military hospitals and various civilian community institutions.

The Consumer Education Study of the National Association of Secondary School Principals illustrated the recognition which educators are giving to the importance of curriculum experiences to prepare boys and girls for the problems of everyday living. This study was set up in 1942 and will end in 1945. The study will attempt to answer the question, "What education does youth need in order to become a more intelligent consumer under our prevailing economic conditions?" The study will furnish the secondary schools with a series of units and evaluation reports of available materials. A monograph, *Commercial Supplementary Teaching Materials,* was issued in 1944. The Consumer Education Study plans to issue 16 units within the next year on such subjects as "Money Management," "Insurance," "Learning to Use Labels," and "Making Your House a Home."

Schools which were concerned with offering learning experiences on present social problems and the development of world understandings are finding more resources available. For example, schools concerned with race relations could call upon the Bureau for Intercultural Education (119 W. 57th St., New York 19, N. Y.) for help. The Bureau undertook the preparation of a series of resource units for pupils and of manuals for teachers under the series title "Problems of Race and Culture in American Education." A book of 73 pages bearing the title *Probing Our Prejudices: A Unit for High School Students,* by Hortense Powdermaker (publisher) is the most recent book issued. Another illustration of the type of resource units available was the "Problems in American Life" series developed by the National Association of Secondary School Principals and the National Council for the Social Studies. Twenty-one units have already been released, the last three of which are "The American Standard of Living," "The American Way of Business," and "Urban and Rural Life."

Through the United States Office of Education, curriculum materials dealing with foreign countries were made available.

WAR ACTIVITIES AND COMMUNITY SERVICES

Of 786 school systems responding to an inquiry by the U. S. Office of Education, 41 per cent had High School Victory Corps with a membership of about one-half the pupils enrolled. Many schools tried to carry out the purposes for which the Victory Corps was set up without formally organizing a Corps. (Circular 227, 1944. U. S. Office of Education.)

Instances throughout the country of war services of secondary pupils included: pledges of 7,000 pints of blood secured by Philadelphia High School students; a countrywide survey made by Victory Corps members in Pulaski County, Virginia, High School; repair and reconditioning of alarm clocks and locks by a Junior Red Cross group in a Detroit high school; letters written by pupils in Clayton, Mo., to Congress urging Representatives to enact legislature to prevent inflation; and University City, Missouri, high school students taking a course to learn to be recreation leaders.

The point of view of authors of articles in educational magazines would seem to indicate that educators believe these community services and activities to be highly desirable. The hope is often expressed that the school will never return to its isolated position apart from the community.

CREDIT FOR MILITARY EXPERIENCE

The National Association of Secondary Principals (N.E.A.) in their report *Earning Secondary School Credit in the Armed Forces* classify three types of experiences for which military personnel may receive high school credit:

1. The off-duty program of education which is offered by the United States Armed Forces Institute, The United States Marine Corps Institute, and the United States Coast Guard Institute. These Institutes offer practically all levels of education in the major subjects. The Principals' Association recommended that the subject or field test results obtainable through the U.S.A.F.I. for all educational work be accepted as a measure of the competence of students in the subject or course.
2. The informal educational experience in the service. Informal or general education experience is gained by many in the armed forces through travel in new localities and countries, through observation of the customs and cultures of other peoples, through the study and use of the special publications of new countries visited, through library services, through visual and auditory aids, and through many other educational experiences provided by the armed forces. It was recommended by the Principals' Association that men and women who were in the early years of their secondary-school careers when they left school and who have had an extended post-school experience in civilian or military life may qualify for secondary-school graduation on an acceptable rating of general competency through the General Educational Development Test, provided statutory requirements of the state are met through tests in required subjects such as English and history.
3. It was recommended that the school grant a maximum of four credits (two units) for the "successful completion" of such basic or recruit training programs in accordance with the school's policy of allowing school credit for learning fields described in the basic training course.

COUNSELING

Guidance and counseling services as a function of public education have been inadequately developed in the past. However, there is reason to believe that educators are becoming increasingly concerned with helping youth arrive at better solutions to their personal problems and aiding both youth and adults to meet postwar vocational problems. Illustrative of this were the New York program and a New Jersey guidance conference.

In New York State the majority of schools are attempting to carry on emergency guidance functions without the aid of specifically appointed counselors. Forty per cent of the schools had designated a wartime counselor, although of these, but eight per cent employed a counselor full time. Seventy-three per cent of the schools disseminated information on the armed services and war industries. Two-thirds provided school drop-outs with a certified summary of school credits. Half of the schools indicated that they maintained an inventory of pupils 16 years old and over, and a little over half provided some liaison service between school and employment agencies and school and Selective Service Boards. Sixty per cent indicated that they interviewed all pupils 17 years old or over, and 36 per cent provided for interviewing pupils as young as 15 years.

The New Jersey State Guidance and Personnel Association and Rutgers University School of Education held their spring conference at New Brunswick with more than 300 delegates present. Among the speakers was John A. McCarthy, Assistant State Commissioner of Education who warned the guidance counselors that retraining of industrial workers and non-disabled veterans in the peacetime era would probably meet with more difficulty than at present. He outlined five fields for the post-war guidance of youth and adults:

1. The service occupations in hotels, restaurants, beauty parlors, barber shops, and amusement places will continue to require trained workers at good salaries.
2. The building industry will provide 1,000,000 homes each year for ten years after victory.
3. Distribution of food, machinery, household appliances, building materials, textiles, fuels and clothing will afford many opportunities in the post-war era if the productive power of our farms and factories is to be utilized.
4. The value of apprenticeships as a means of producing skilled workers must be impressed on American youth.
5. More vocational training programs after the war will be co-educational than in the past, for women have proven their worth in industry and will continue to do so in certain occupational fields. (*Education for Victory,* July 3, 1944.)

Sex education is receiving objective treatment in some schools. A study entitled *Sex Education in Nine Cooperating High Schools,* under the direction of Dr. Lester A. Kirkendall (U. S. Office of Education) is reported in the March and April, 1944, issues of the *Clearing House.*

An examination of the periodicals for 1944 seems to indicate an increasing emphasis on the important place which the regular classroom teacher has in the guidance program of the schools. Illustrations of this are to be found in "The Classroom Teacher is Vital in Guidance," by Jesse Rathbun and O. I. Schmaelzle, of the San Francisco Public Schools (*Clearing House,* January, 1944) and "Evaluation of Group Guidance," by Georgia May Sachs of Pasadena, California. (*School Review,* April, 1944.)

WORK EXPERIENCE

During 1944 many schools developed school-and-work programs to permit students to work while continuing in school. In Birmingham, Ala., students spent half of each day in school and half in industry working at jobs related to the courses they were pursuing. In Los Angeles a "4-4 Plan"—four hours in school and four hours on the job each day—was developed. Twenty thousand students were employed under the plan. Of these, 16,000 maintained school programs which insured graduation on schedule. In Chicago, approximately half of the high school juniors and seniors worked on a part-time basis during the regular school year. (*Education for Victory,* Feb. 3, 1944.)

It is estimated that, during the summer of 1944, approximately 700,000 students were placed in agricultural work through the extension service of the Department of Agriculture. In this Victory Farm Volunteer program students worked as individuals, were transported daily to the farms in groups or resided at group work camps at the scene of employment. Often school officials, in cooperation with the county extension services, kept in contact with the students on the job. (*The Bulletin* of the National Association of Secondary School Principals, January, 1944.)

Secondary school educators, through conferences which were held and through various pronouncements, gave evidence during 1944 that they recognized work experience as an important aspect of education. At a conference held at Purdue University recommendations were developed upon which to base the work experience program in individual schools. Suggestions included: collecting information on the number of young persons employed; employing a liaison officer to coordinate the work of the school and the employer; guiding students in the light of their work experience; and developing with students criteria for determining the effectiveness of work experience. (*The Bulletin* of the National Association of Secondary School Principals, February 1944.)

In addition to its educative value, work provides a means for pupils to earn needed money to go to high school. The need for money to meet such expenses as clothes, school supplies, lunches, carfare and attendance at activities was indicated in a study by Paul Jacobson, Superintendent of Schools at Davenport, Ia. in which data were secured from more than 19,000 students enrolled in 134 high schools in 29 states. The average expenditures of 464 representative pupils over a period of 36 weeks were as follows:

Clothing	$41.46
Lunches	16.18
School Supplies	4.30
Uniforms and Equipment	2.05
School Activities	7.91
Carfare and other Transportation	7.72
Miscellaneous	9.98
Total	$89.60

The findings of studies in Indiana and Ohio indicate similar results. These suggest that the educational opportunity of pupils on the secondary level must be equalized in terms of our democratic beliefs.

Jacobson believes there is a relationship between the approximate $90 a year it costs a boy or girl to go to school and the fact that one-fourth of boys and girls from 14 to 17 years of age were not in school in 1940. Higher family incomes would, of course, solve the problem. Until such incomes are available, it was suggested that schools can minimize the personal expenses of pupils through 1. absorbing the cost of activities, transportation, supplies, lunches and uniforms as a part of the school budget; 2. using some form of Federal assistance to allow young people the necessary money for clothing and other expenses; and 3. allowing part-time school attendance. (*School Review,* June, 1944.)

YOUTH CENTERS

In both cities and rural areas a primary problem was juvenile delinquency, a by-product of the mobilization of armies, industrial speed-up, inadequate housing, mothers in industry, and other impacts of war on American life. The March issue of *Survey Mid-Monthly* affirms that something can be done and shows how it can be done through concerted action by all responsible citizens. It proposes a study of local conditions and the establishment of an overall plan to deal with them. It outlines the uses which can be made of specialized services which are essential to action. (*The Bulletin* of the National Association of Secondary School Principals, April, 1944.)

Among the many methods of dealing with the problem of juvenile delinquency, the establishment of youth centers has been one of the more effective. In many instances these were sponsored by the school itself; in others the school cooperated with other community agencies. Teen-age youth centers have grown up almost overnight. In Cincinnati, O. alone there were 20. A canteen is a type of non-liquor-serving junior night club which in most cases adopts some such name as "Bar-None Corral" in Oklahoma City; "The Bombardier" in Des Moines, Ia., the "Tumble Inn" in Georgetown, Penn., or "Teen Towns" in Kansas City. In most cases the canteens were controlled by the youth themselves with a minimum of adult supervision. (*The Journal of the National Education Association,* January, 1944.)

CONFLICTS IN EDUCATION

The war has served to bring into bold relief conflicting beliefs concerning education. Laymen and educators are asking, "Can the Schools teach the G.I. way?" Many seem to forget that the war provides a powerful motivation for which school men have never found an adequate substitute in peacetime. Many fail to recognize that unusually fine films and other teaching aids have been made available for use in the armed forces but at a cost which the American people have never felt would be justified in schools. Some forget that preparation for war is a well defined, rather narrow, emergency objective, compared to the job assigned to schools in peacetime to develop citizens with the various characteristics essential for effective living.

The confusion in education is due in part to fundamental differences in opinions of the leaders of education as to the role of the school in American society. R. L. Pounds discusses, in the February issue of the *Bulletin* of the National Association of Secondary School Principals, differing viewpoints of leading educators with respect to the function of secondary education. These are divided into four categories: Humanism, Social Evolutionism, Social Realism, and Experimentalism. Humanism exerts an influence on secondary education through colleges and universities. This point of view holds that education should give its major attention to educating the minds through the use of the classics. After minds have been developed they will be able to solve the important problems of our society.

The Social Evolutionist contends that the primary function of the school is to select those race learnings which are essential to the progressive evolution of the race and to bring all individuals up to a minimum standard in them. Among these are the tools of learning: reading, writing, number skills, and other techniques needed in our society.

The Social Realist believes that the school should study present society and prepare youth for participation in that society as it now is. The school curriculum should consist of units designed to give the understandings, views, and skills needed by the individual to live effectively in society. The goal of education is social competence.

The fourth group, the Experimentalists, include educators often designated as the progressives. They agree with the social realists but would go further in giving to students experiences that will enable them to make intelligent decisions about the society of which they are a part. The pupil should be educated not only to make decisions but also to act on them. Emphasis is placed on experiences in relation to the needs of the adolescent rather than the adult needs.

PUBLIC REACTION TO EDUCATION

The National Opinion Research Center, University of Denver, issued a report entitled "The Public Looks at Education," in August, 1944, which revealed nationwide attitudes regarding our public schools and their problems. The report also indicated areas of mis-information and absence of information. To ascertain attitudes on education three questions were asked: 1. What do you think is the most important thing for children to get from their education in school? 2. Are you satisfied with what they (your children) are getting from their education in school? 3. Is there any kind of change you would like to see made in the public schools?

When asked to name the most important things children should get from their public school education, an equal number of Americans ranked academic subjects and character education of first importance. Vocational training, citizenship education, and experience in making social adjustments followed in order. Of parents with children in the public schools, eight out of ten reported satisfaction with what their children were getting out of their schoolwork. Of every 100 persons interviewed, 57 suggested no changes in the public schools. From those who did make suggestions, it appears that a return to traditional subject-matter emphasis and teaching methods would be more popular than more modern and "progressive" education.

According to this same report, out of each 100 Americans, 54 thought the public schools need more money to "do a good job," 58 believed that teachers are "paid too little for the job they are expected to do," 68 thought that public school systems should be "mostly controlled" by the state rather than the Federal Government, but 69 favored having "the Federal Government turn over a certain amount of money to the states every year for their schools."

During 1944 considerable attention was given to the question "How much should education cost?" Educators and laymen were motivated to consider the question primarily because of the critical teacher shortage. Everyone agreed that the major factor in this shortage is the low salaries paid to teachers. The National Association of Secondary School Principals and the Educational Policy Committee of the N.E.A. proposed that America must decide what it wants to spend for its schools. In 1936, $4,000,000,000 was spent for automobiles and $2,800,000,000 for education. On the basis of an estimated post-war national income of from $110,000,000,000 to $125,000,000,000, it is expected that $8,000,000,000 will be spent for automobiles. Some educators believe that, on the basis of this kind of income, $5,500,000,000 spent annually on schools would be a reasonable figure. (*Planning for American Youth.* National Association of Secondary School Principals. N.E.A.)

An unusual and very important study entitled "What Education our Money Buys" was completed by the Educational Conference Board of New York State. This group included both professional and lay organizations. The study pointed out the qualitative differences between schools which spent $75 and $150 per student. Evidence was given to show the marked superiority of the school spending $150.

NATIONAL LEGISLATION AFFECTING SECONDARY SCHOOLS

The G.I. Bill of Rights (Public Law No. 346) passed by the Seventy-eighth Congress, provides a program of education for those under 26 whose education was interrupted by entrance into the armed service or who desire retraining or refresher courses. The returning veteran is entitled to both a year of preparation for an advanced or specialized institution and to a period in such institution equal to his period in active service in the armed forces. The institutions are to be paid a subsidy not to exceed $500 a year per eligible person. The veteran is to be given an allowance of $50 a month, plus an additional sum for dependants. The local school system is the basic unit in which the veterans post-war adjustments will be met, since demobilization will involve a procedure somewhat the reverse of selective service mobilization. Local superintendents are being urged, therefore, to assume responsibility for leadership in developing educational programs for returning veterans. (*A Program for the Education of Returning Veterans,* Education Policies Commission, N.E.A.)

The Seventy-eighth Congress also passed the Surplus Property Act of 1944 (Public Law No. 457) late in September. Under this act there was established in the Office of War Mobilization a Surplus Property Board of three members to be appointed by the President by and with the advice and consent of the Senate, with the authority to dispose of surplus property in accordance with the provisions of the act. This law permits both tax supported and non-profit private schools to avail themselves of war materials on either a purchase or lease basis. The specific procedures by which the equipment will be released is left to the Surplus Property Board. (*Education for Victory,* Nov. 20, 1944.)

The Federal Aid Bill (Senate Bill No. 637, H.R. 2849) was reported out by the Senate Committee on Education and Labor and recommended for passage on Sept. 21, 1944, the day Congress was to recess. This action meant that Federal aid will again be debated and voted on in the Senate. (*Progressive Education,* November, 1944.)

COMPULSORY MILITARY TRAINING

The advisability of inaugurating a permanent program of compulsory military training in the United States was widely discussed throughout the nation in 1944. Some pros and cons of this issue were presented in the November issue of *The Journal of the National Education Association.* The following arguments were presented in defense of military training: a year of compulsory military service is necessary as a measure of preparedness; it will improve the health of the nation; and it will provide valuable vocational training. In reference to the latter point the writer suggests that the average high school is not equipped to do the necessary occupational education. "In the Army, a soldier is obliged to concentrate on his vocational work, for the skill he acquires is put to immediate use. Army discipline does away with the dawdling over vocational training which is so common in schools." A further argument in favor of military training is that "a year of military service, to which all young men, rich or poor and of whatever race, might be subjected, would have a democratizing influence. All youth would have experience in working shoulder to shoulder for a great national purpose. . . ."

Among the arguments presented by the writer against military training are that it is not yet certain that we will need a large reserve army and such a program might discourage the limitation of armaments by all nations; that our best means of defense will be by a relatively permanent professional body of skilled aviators and seamen; that we can not rely on an army program for needed health and vocational training because such a program would neglect those already physically unfit for armed service and also women.

State committees are working on the problem of military training. A committee of principals in the State of Delaware in their report is generally opposed to compulsory military training and argues that the schools should accept the responsibility for preparing youth for the defense of the nation. The October, 1944 issue of *Educational Leadership* (journal of the Department of Supervision and Curriculum Development, National Education Association) was entirely devoted to the question of compulsory military training. The issue was debated by students, laymen, and educators. Students and laymen tended to favor compulsory military training, whereas educators tended to oppose it.

PLANNING

Throughout the United States, educators banded together to attack their common problems. In Connecticut, the State Department of Education, the Bureau of Youth Service, and the Connecticut State Principals Association joined forces to develop a program to meet present and future problems. Ninety-five per cent of the high school principals of the state participated actively in the conference. Their recommendations were tried out in 15 schools on an experimental basis. In Indiana the Secondary Principals Associations set up a committee to work on curriculum revision. In Iowa, statewide study groups were organized by counties. In Minnesota, a study of curriculum revision sponsored by the Principals Association included experimental programs in six schools.

A Study of In-Service Education was published by the North Central Association of Secondary Schools and Colleges. This report discussed the basic criteria for an in-service education program, for democratizing staff relationships, and for staff growth through leadership in community-school relationships.

Much of the planning that was done related to war problems. The U. S. Office of Education published a leaflet entitled *Our Schools in the Post-War World* (Leaflet No. 71) which posed questions for planning a program of action. The American Association of School Administrators held wartime conferences in Seattle, Atlanta, New York, Chicago, and Kansas City.

Planning for American Youth, a publication sponsored by the National Association of Secondary-School Principals, gave in 62 pages somewhat of a blueprint for the secondary school for post-war years. In recognition of the fact that schools must differ in terms of the areas which they serve, school programs were suggested for Farmville and American City. The programs of both, however, were based on four fundamental assumptions: 1. Education should be planned for all youth, so that economic, geographic, social, occupational and racial limitations may have full understanding and consideration; 2. Education should be free, provided as a service of the state to its citizens; 3. Education must be suited to the personal and social needs of the people it serves; 4. Education should be continuous, that is, it should go on after youth leave the school.

It was proposed that every youth attend school until his eighteenth birthday or until he has completed high school. It was further proposed that the school serve both youth and adults and that the school plant be used the year round for education and recreation. The report emphasized the need for staff members to receive compensation sufficient to live as respected members of the community.

HIGHER EDUCATION

By Alonzo F. Myers*

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COLLEGE AND UNIVERSITY ENROLLMENTS IN WARTIME

For the fourth successive year college and university enrollments in the United States have declined. The annual *School and Society* survey of enrollments, conducted by President Raymond Walters of the University of Cincinnati, discloses that on Nov. 1, 1944, there were enrolled a total of 608,750 full-time students, and a grand total of 925,084 full-time and part-time students. These totals fall nearly one-third below the comparable figures for 1939.

Some comparisons with 1943 are possible. In 648 institutions which reported in both 1943 and 1944, there were in November, 1944, a total of 593,271 full-time students. In the same institutions in November, 1943, there were 454,750 full-time civilians and approximately 363,000 trainees in Army and Navy units. For "all-resident" students (including part-time and summer session), 646 institutions reported a grand total in the fall of 1944 of 893,883. The comparable figure for November, 1943, was 1,099,043. Whereas in 1943 the decline in civilian enrollments was approximately balanced by a large increase in enrollment of students in uniform, in 1944 there was a sharp drop in Army trainees, with a large curtailment of Navy trainees in prospect.

It is worthy of note that there has been an increase in the number of freshman students, both men and women. Of 651 institutions reporting for both years, the total enrollment of male freshman students in 1943 was 53,863, while in 1944 the comparable figure was 60,495. The enrollment of female freshman students in these same institutions in 1943 was 98,635, while in 1944 the comparable figure was 116,290.

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* The writer is indebted to President Raymond Walters of the University of Cincinnati, and to *School and Society* for statistics of attendance in universities and colleges.

WOMEN AND THE COLLEGES

As was true in 1943, the colleges are largely dependent on women students in their efforts to maintain sufficient enrollments to enable them to continue operation. In 1944, women students constituted 60.2 per cent of the total collegiate enrollment. As might be anticipated, the women's colleges are not suffering the enrollment worries that are being experienced by the colleges for men and by coeducational institutions. Attendance of women students in 1944 was higher than at any time in our history. Furthermore, women students are preparing for a greater variety of professional and technical occupations than ever before. The longtime effects of this sharp increase in enrollment of women in colleges and universities, and of the variety of occupations for which they are preparing, can not be properly evaluated at this time. It seems probable, however, that there will be some significant longtime effects.

FINANCIAL SITUATION CONFRONTING HIGHER EDUCATION

In December, 1943, when the Army training program in colleges was at its peak, approximately 350 colleges and universities were training 238,000 Army personnel. In September, 1944, only 138 institutions were being utilized, with a total enrollment of about 41,800 Army students. This number was greatly reduced before the end of 1944.

As to the Navy, official figures disclose that there were 130 colleges and universities engaged in training 125,935 naval personnel in December, 1943. In the fall of 1944 these same 130 institutions had a total enrollment of 113,531 naval personnel. A sharp reduction in utilization of colleges and universities by the Navy is in prospect.

In 1943, approximately 440 colleges and universities were being utilized by the Army and the Navy in their training programs. Some of these institutions had the largest enrollments in their history, thanks to their Army or Navy contracts. The remaining approximately 1,400 higher institutions had to get along as best they could without Army or Navy contracts. In the case of the colleges for women, this was no serious problem. For the rest, however, mainly small colleges of liberal arts and teachers colleges, the struggle for existence in 1943 was severe. For these institutions, the financial picture did not change greatly in 1944. It is still bad. The important new element in the situation is that most of the 440 institutions that were in good financial condition in 1943 through Army or Navy programs, are now in or facing the same financial difficulties as their smaller and humbler brethren.

Financial worries are not confined to the privately endowed colleges and universities, although their financial difficulties are more acute than are those of the publicly supported institutions. In the private colleges, on the average, about 50 per cent of the financial support is derived from student tuition and fees. In the public institutions about 20 per cent of the financial support, on the average, is derived from student tuition and fees. The private colleges face the additional handicap of reduced return from endowment funds. Only partially offsetting this greatly reduced income is the fact that teaching staffs have been depleted through the departure of many faculty members to enter military service or war work.

APPROPRIATIONS FOR PUBLIC COLLEGES AND UNIVERSITIES

To date, appropriations for publicly supported colleges and universities have held up remarkably well. Some college administrators fear that legislatures, looking at diminished wartime enrollments, may sharply reduce biennial appropriations. These institutions, however, can make a strong case for the necessity for keeping their organizations together against the time, not far distant, when the demand for their services will be greater than ever before.

It would be easy to predict, as indeed it has been predicted, that many of our colleges would not be able to survive the war. Regardless of what the future may hold, it can be stated that up to the end of 1944, not a single approved four-year liberal arts college had been reported as closing its doors. The truth is that colleges are particularly difficult to kill. Many colleges, indeed most colleges, are in financial difficulties. They have shown remarkable resourcefulness, however, in surmounting these difficulties.

FINANCIAL PICTURE FOR THE NEAR FUTURE

The financial picture for the near future, which is determined primarily by enrollments, emerges about as follows: (1) Enrollment of women students probably will remain at a high level, but will not be greatly increased; (2) Army and Navy training units probably will be almost entirely out of the picture; (3) Under-age boys will continue to swell freshman enrollments, but few of these will be permitted to stay in college beyond age 18; (4) The House Committee on Education is considering proposals by its Advisory Committee relating to Federal assistance to colleges and universities which are in distress, there being the possibility of loans at low interest rates, to be made or secured by the Federal Government; (5) Under the Surplus Property Act, colleges and universities will be able to secure surplus government equipment; (6) Increasing numbers of physically disabled veterans are enrolling in the colleges and universities, under the provisions of the Veterans Rehabilitation Act.

THE ENROLLMENT OUTLOOK

Taking a somewhat longer-term view, it may safely be predicted that the colleges and universities of the country will have enrollments following the war that will greatly exceed the 1939-40 peak enrollments of 1,400,000. The fact that approximately 700,000 veterans will enroll under the provisions of the so-called G. I. Bill of Rights virtually guarantees record enrollments in the immediate post-war years. The determination as to whether it will be the academic year 1944-45 or 1945-46 that will impose the greatest strain on the financial structure of the colleges will depend on the course of the war and upon the overall manpower situation.

THE FUTURE OF THE LIBERAL ARTS

Since the beginning of the war the liberal arts have been in almost total eclipse in American colleges, with the exception of the women's colleges. Even in most of these the liberal arts have suffered. This was inevitable, since the colleges and universities of the country, in common with business and industry, labor, and agriculture, have been devoting their energies wholeheartedly to winning the war. As the war draws nearer its inevitable conclusion the colleges face problems of reconversion to serving the needs of a peacetime economy. These problems will prove to be serious, but not insurmountable.

What will be the place of liberal education in the post-war college? Some fear that vocational and technological emphases will be so strongly entrenched that liberal education will be shunted to the sidelines permanently. They fear, more specifically, that the several hundred thousand ex-service men who will return to college will have little interest in liberal and cultural studies, preferring instead to prepare for a peacetime job in a hurry. Doubtless there is some basis for such fears. Unquestionably the colleges should and must make some major adjustments to meet the needs and demands of the veterans. It seems quite clear, however, that not nearly all of them will want merely vocational training.

Most students of the subject agree that there will be a return to liberal and cultural studies. There is widespread disagreement, however, as to the proper form and content of the liberal education of the post-war college curriculum. Some advocate what their critics term "a retreat to the Classics." They are a small but highly vocal group, represented by Robert Maynard Hutchins, Mortimer Adler, Stringfellow Barr, Mark Van Doren, and others. Others would have the college resume the curriculum of the decade immediately preceding the war. Probably most educators believe that the liberal education of the future must be in harmony with the needs of our post-war society, and consequently that major reforms are in order. Actually, they point out, some of these reforms were coming gradually before the war.

The proposals for reform are numerous. In general, they take the following forms: (1) greater emphasis on individual education, in the sense that more attention would be given to the individual, his needs, and his capacities, as well as his aspirations, with the curriculum for each individual pretty much tailor-made for him; (2) a broader concept of what constitutes liberal or general education, with less attention to what was traditionally regarded as liberal; (3) the concept that liberal education, like vocational education is intended for use; (4) a belief that in a democracy all of our citizens who can profit from liberal education should have it, regardless of whether they plan to spend a life of cultured leisure, enter a profession, or practice a trade.

OBJECTIVES FOR GENERAL EDUCATION

Probably the best guide to the curriculum for liberal or general education for the future is provided by *A Design for General Education,* prepared by Dean T. R. McConnell of the University of Minnesota, and others, for the American Council on Education, and published by the Council in 1944. It proposes the following major student objectives for general education:

1. To improve and maintain his own health and take his share of responsibility for protecting the health of others.
2. To communicate through his own language in writing and speaking at the level of expression adequate to the needs of educated people.
3. To attain a sound emotional and social adjustment through the enjoyment of a wide range of social relationships and the experience of working cooperatively with others.
4. To think through the problems and to gain the basic orientation that will better enable him to make a satisfactory family and marital adjustment.
5. To do his part as an active and intelligent citizen in dealing with the interrelated social, economic, and political problems of American life and in solving the problems of post-war international reconstruction.
6. To act in the light of an understanding of the natural phenomena in his environment, in its implications for human society and human welfare, to use scientific methods in the solution of his problems, and to employ useful non-verbal methods of thought and communication.
7. To find self-expression in literature and to share through literature man's experiences and his motivating ideas and ideals.
8. To find a means of self-expression in music and in the various visual arts and crafts, and to understand and appreciate art and music as reflections both of individual experience and of social patterns and movements.
9. To practice clear and integrated thinking about the meaning and value of life.
10. To choose a vocation that will make optimum use of his talents and enable him to make appropriate contribution to the needs of society.

EDUCATION FOR THE PROFESSIONS

By Donald P. Cottrell
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DENTAL EDUCATION

Institutions and Students.—The Council on Dental Education, a standing committee of the American Dental Association, reports that there are 39 dental schools in the United States, 33 being integral parts of universities, three affiliated with independent medical schools, and three remaining unattached to either universities or medical schools. The Council is at present working on the details of a plan for granting approval or formal accreditment to dental schools which is expected to be adopted by February, 1945. All schools offer a four-year course based upon a minimum entrance requirement of two years of approved liberal arts college work. More than half of the present total student body offered for their admission more than the specified minimum entrance requirement. On June 30, 1944 there were 9,014 undergraduate students enrolled in dental schools. This represents the largest enrollment since 1926-1927.

Graduates.—All dental schools are now operating on an accelerated program under engagements with the Army or the Navy or both. For the year ended June 30, 1944 there were 2,470 graduates, 29 per cent of whom were in possession of a baccalaureate degree in addition. This number of graduates is abnormally large, as is shown by the fact that in the previous year, which was only slightly influenced by the acceleration program, there were only 1,926 graduates. Even considering the fruits of the accelerated program, it is estimated that an insufficient number of dentists will be graduated in the immediate future to meet both military and civilian needs on the basis of past standards.

Licensure.—The 49 examining boards, representing all of the states and the District of Columbia, examined 3,631 individuals in 1943 and recorded 3,253 passing marks and 378 (or 10 per cent) failures. On the basis of the above examinations 3,227 licenses were issued. This number includes dental graduates from previous years and those who changed the location of their practice.

Expenses of Dental Education.—In addition to the initial costs of buildings and equipment, dental schools spend, on the average, $811.56 per year for the education of each student. Only 43.2 per cent of this amount or $350.59, on the average, is paid by the student in tuition and other fees.

Developments in Dental Education.—The year 1944 was characterized by a faithful effort on the part of dental schools to keep in operation on the accelerated plan at practically full capacity in order to aid the war effort and also to assure, in so far as possible, an adequate supply of dentists for civilian needs. Dr. H. H. Horner, secretary of the Council on Dental Education, reports: "Many problems of which the schools are keenly aware and upon which they are alert must await the end of the war for solution. Supplies and equipment are running low, many new buildings are needed, all schools are looking for additions to their faculties of teachers with broader training than they have had, all schools are interested in attracting students with excellent scholarship and with aptitude for dentistry. The Council on Dental Education in cooperation with the American Association of Dental Schools is planning to inaugurate after the war a nation-wide testing system, both mental and manual, for all entering students."

ENGINEERING EDUCATION

Curriculum Developments.—The outstanding event of the year, in terms of efforts to improve the character of engineering education, was the publication in May of the report of Dean H. P. Hammond's committee of the Society for the Promotion of Engineering Education which was charged to study immediate and long-range problems and particularly to review the same Society's 1940 Committee report on Aims and Scope of Engineering Curricula. Whereas the 1940 report had strongly urged the building of parallel integrated sequences of scientific-technological and humanistic-social subjects for engineering students, the war has tended to reverse the process by necessitating the entire first period of months of training to be devoted almost exclusively to the attainment of specific technical objectives preparatory to military service, with the possibility of humanistic-social elements being added at some later and indefinite time. The present committee reaffirms the 1940 report as a basis for the curriculum immediately after the war, emphasizing the importance to engineers of an appreciation of cultural interests outside their own field, of an understanding of their duties as citizens, and of a knowledge of social and human relationships.

The Committee calls particular attention to the educational implications of the trend toward increased use of the engineering method in the management and operation of industry and the further trend toward increased opportunity for engineers prepared to practice at a high scientific and creative level. These latter trends call for special curriculum provisions beyond the usual course. In addition, the Committee notes the increasing need for adequate provision and recognition of training facilities on the sub-professional level served in certain areas at present by the technical institute.

While the foregoing committee recommendations in no sense have the force of actions binding upon individual institutions, they will undoubtedly receive serious consideration by educators. The membership of the Committee was widely representative and the Society is influential in the engineering field.

Status of Engineering Schools.—No comprehensive data regarding enrollments and institutions were available at the time of preparation of this report. It is known, however, that engineering programs have been drastically curtailed during the war, both because of Selective Service demands upon young men students and because of the depletion of staffs of engineering schools by military and civilian war service. Many institutions that have been offering instruction in Army and Navy training programs or the Engineering, Science and Management War Training Program courses are now finding these curtailed, if not entirely cancelled as in the case of many Army programs. This probably means that enrollments for the year will show a decrease over the previous year. It is unlikely, however, that the number of institutions engaged in this field will have decreased.

JOURNALISM EDUCATION

Institutions and Curricula.—Professional education for journalism has in recent years been slowly gaining headway against a tradition which has tended to assume that the preparation needed for practice in this field could best be provided, if not exclusively so, through experience of an apprenticeship character. In 1940 there were 542 four-year colleges and universities offering instruction in journalism. Only limited programs, probably in most cases one or two courses, were offered by 382 of these institutions.

The American Association of Schools and Departments of Journalism is composed of 34 member institutions granting degrees with a major in journalism and conforming to certain standards as to the number of students, types of curricula, and library and laboratory facilities. In addition to the member institutions of the Association, there were 69 institutions having a major and granting a degree in journalism and 55 institutions offering a combined major in English and journalism.

While no comprehensive statistical data of the strictly current situation in journalism education are available, Prof. Norval N. Luxon of the Ohio State University, Secretary-Treasurer of the American Association of Teachers of Journalism, reported that probably many of the 382 institutions offering limited programs and possibly some offering major programs have dropped journalism during the past four years.

One recent development was the setting up of special one-year or two-year technical curricula to prepare staff members for newspapers in a short time. Generally speaking, member institutions of the American Association of Schools and Departments of Journalism are opposed to this development. A number of the schools which started such programs have since abandoned them.

Enrollments.—The 1943-44 enrollments in institutions which are members of the Association, together with 14 of the 69 other schools offering degrees, had declined 57 per cent from the enrollment in the academic year 1939-40. The number of graduates was probably not more than one-half of the number for 1939-40. Professor Luxon reported that, during the past four years, the demand for qualified graduates of Schools and Departments of Journalism has far exceeded the supply. In most Schools and Departments of good professional standing the man-to-woman ratio before the war was 2-1 or 3-2. By 1944 this ratio had been changed to 1-4 or 1-5. Most of the professional schools, however, are guarding against too many girls starting the four-year curriculum, since they feel that the present large demand for women in the field may not continue to 1948.

LEGAL EDUCATION

Institutions and Enrollments.—The Section of Legal Education and Admissions to the Bar of the American Bar Association reported that, on June 1, 1944, there were 109 schools on the approved list of that Association. In these schools, 4,797 students, including 1,048 women, were in attendance during the academic year 1943-44. This figure represents approximately three-fourths of all law students in the United States for that year. In addition to the approved schools, there were at the same time 45 schools not on the approved list which were giving chiefly evening classes. In these schools 1,625 students, including 328 women, were enrolled. Eight approved and five unapproved law schools have suspended operation for the duration of the war. The total of 6,422 students above accounted for represented approximately one-fifth of the pre-war law school attendance. Many schools have introduced provisions for acceleration of the course during the war period.

Changes in State Bar Examination Requirements.—Forty-two states and the District of Columbia require at least two years of college or its equivalent before bar admission, effective presently or prospectively. Five states have no such requirement. Maryland has lowered the requirement from two years to 40 semester hours. Some 20 states now require graduation from a school approved by the American Bar Association as a condition of admission to the Bar examination. The National Conference of Bar Examiners is now interested in improving the requirements for admission and in improving the techniques of the Bar examination. The Conference is now conducting a program to improve the character and fitness examination of applicants for admission to the Bar.

The Work of Professional Associations.—Legal education is the special concern of three organized bodies: The Association of American Law Schools, The Section of Legal Education and Admissions to the Bar of the American Bar Association, and The National Conference of Bar Examiners. The first two of the named groups operate as accrediting groups, the first through its requirements for member institutions and the second through a regular inspection service in connection with the enforcement of published standards for its approved list of schools. During the past year the standards of these accrediting bodies were relaxed in certain particulars, chiefly for the reason of the unavailability of faculty and student personnel.

Despite the adverse conditions at present, the Association of American Law Schools continued actively its program of publications and organized deliberation calculated to improve legal education. Twenty-four working committees were appointed for 1944 to deal with curriculum and related matters of program of the Association and its member schools. Among the major problems put before the Association currently by its officers were: the better coordination of the various organizations of law teachers and law practitioners which influence legal education; the length and organization of time for the law course; the introduction of modern features in the content of the curriculum, such as the study of international law and the integration of law and the social sciences; improvement of teaching and examining methods; and the reorientation of the law course to take more significant account of the responsibility of the lawyer today for participation in the formation of basic public policy for American democracy. A valuable monograph on pre-legal education by Dean Arthur T. Vanderbilt was published in September by the Section of Legal Education and Admissions to the Bar of the American Bar Association.

MEDICAL EDUCATION

Institutions and Students.—In the 77 medical schools in the United States there were 23,782 students enrolled in the January-September session of 1944. Eight of the schools, enrolling 629 of the students, were so-called Basic Science schools providing only the pre-clinical part of the medical course. The remaining 69 schools offered the full four-year course on an accelerated basis, six schools requiring the fifth or internship year for the M.D. degree. The present total enrollment represents an increase of 10 per cent since the academic session of 1940-41. The student bodies are largely made up of students in military service, 62.1 per cent being in the Army and 26.2 per cent in the Navy. The remaining group consists of 6.6 per cent other men, in the main physically disqualified or deferred by Selective Service, and 5.1 per cent women.

Graduates.—Under the accelerated program in all but one institution, with students being admitted every nine months, the average annual number of physicians produced has been increased unprecedentedly, although the exact amount of this increase will not become readily apparent until in 1945. Medical students, numbering 10,357, were graduated between July 1, 1942, when acceleration started in most schools, and June 30, 1944. Between the latter date and June 30, 1945, it is estimated by the Council on Medical Education and Hospitals that there will be 9,844 graduates. For the three-year period between 1942 and 1945 there will thus be some 20,201 graduates. The resulting three-year average of 6,734 may be compared with 5,275, the figure for 1941. Since the Army is now drastically modifying its contracts to provide student personnel for medical schools, however, it is quite unlikely that this rate will be continued, and many schools plan to return to annual admissions in the autumn of 1945.

Licensure.—Graduates under the accelerated program may now be licensed in all states, the District of Columbia, Alaska, Hawaii, and Puerto Rico, although some of the recent adjustments in the laws to make this possible have not yet been made entirely adequate. Twenty-three states, the District of Columbia, Alaska, Hawaii, and Puerto Rico require an internship for license, and at least for the duration of the war eight states and Alaska will accept the nine months internship as meeting the requirement. Other states and territories require three additional months. In 1943 medical examining boards examined 8,392 persons, including 6,427 graduates of approved medical schools in the United States. Of the latter group, which represents an increase of

23.7 per cent over the previous year, 1.5 per cent failed. Of the 1,031 candidates who were graduates of faculties of medicine located in countries other than the United States and Canada, 49.8 per cent failed. Failures of 38.4 per cent were recorded for the 757 examinees who were graduates of unapproved schools in the United States and its territories, and this number of candidates represents an increase of 72 per cent over the previous year.

Developments in Medical Education.—A committee of the American Medical Association, with the cooperation of a number of other medical groups, is conducting an extensive study of the needs for post-war medical service. An inquiry to medical officers in military or government service has revealed that approximately two-thirds of the graduates of the past six years want extended periods of additional training after the war. Much attention is now being given by medical educators to the effects on the curriculum of wartime experiences in care for the armed forces and civilians. The growing importance of certain fields in medicine, including neuropsychiatry, public health, industrial health, tropical medicine, and physical medicine is recognized as now being accentuated. The urgent need for post-graduate training and continuation training for practicing physicians is being given much attention. In the past ten years increasing effort has been given to the establishment of examining boards to certify physicians in each of the major specialties of medical practice. Today 15 such boards are in operation.

Fees, Scholarships, and Loan Funds.—The annual tuition fees for medical students have been continuously increasing over the past five years. The average tuition charge of medical schools was $409 per student in 1943, no school charging less than $100 and 28 schools charging $500 or over. For the present, at least, no hardship results from the amounts of tuition, since 85 per cent of the students now in medical schools are being financed under the Army and Navy programs. Consequently the need for scholarship and loan funds is at present slight, although it is anticipated that such funds will again be in great demand in the near future when an increase occurs in the proportion of civilian medical students.

NURSING EDUCATION

Institutions, Students, and Graduates.—According to the National League of Nursing Education there are now 1,300 schools in the United States which meet the legal minimum requirements in the respective states for the offering of undergraduate programs. Between 60 and 70 colleges and universities offer advanced programs in nursing to graduate nurses: Some of these institutions offer both the undergraduate and the advanced programs. During 1944 there were 38,500 students admitted to schools of nursing. In the same year 28,300 were graduated. The National Organization for Public Health Nursing reports that 30 universities offer post-graduate programs in the special field of public health nursing which are approved by that organization. In the academic year 1943-44, 361 baccalaureate degrees, 43 Master's degrees, one Doctor's degree, and 472 certificates in public health nursing were granted to students in institutions offering these approved programs.

Educational Funds Available for Students.—The annual costs to students for nursing education range from nothing to $2,000, depending on the type of school attended. Both scholarship and loan funds for undergraduate programs and fellowship funds for graduate programs are available in liberal amounts. The war has accentuated both the need for such funds and the amounts available. The Bolton Act of 1943, providing Federal funds, continues to be the chief source.

Wartime Programs of Nursing Organizations.—The National Nursing Council for War Service has served to bring together the war efforts of a number of organizations, notably The American Nurses Association, The National Organization for Public Health Nursing, and The

National League of Nursing Education. The Council has actively cooperated with the Federal Government in connection with the program of the U. S. Cadet Nurse Corps and the Procurement and Assignment Service for Nurses under the War Manpower Commission. The Council is active in the field of the recruitment of student nurses, recommending quotas after studying needs and resources. In this connection it cooperates with the Government in maintaining a Clearing Bureau for correspondence with prospective students. It conducts a field program which in 1943 advised with more than 600 colleges on problems of nursing education. During the past year the Council has been working on a number of immediately pressing problems, such as the intelligent use of the practical nurse, a square deal for the Negro nurse both in civilian and military services, a more widespread use of the retired nurse who could return to part-time duty, and a greater use of nurses' aides.

Among the principal interests of the National League of Nursing Education have been the study of personnel needs in nursing education and the administration of a program of improved examinations for licensing nurses. In the former connection, the League finds one-seventh of all instructor positions unfilled at present, with particular shortage of persons who can carry responsibility as supervisors and head nurses in psychiatric, pediatric, medical, and obstetric fields. In the matter of license examinations, 17 states agreed this year to use the League's special examinations exclusively for certain subjects. This program provides a comparable basis among the states for judging the competency of nurses and estimating the efficiency of nursing education.

EDUCATION FOR SOCIAL WORK

Institutions and Students.—The American Association of Schools of Social Work reports 43 institutions, 42 of which are members of the Association, now giving instruction in the field to 5,988 students, as of Nov. 1, 1943. The enrollment figure represents 475 men and 5,513 women and includes professional students majoring in social work, students taking courses but not majoring, and pre-professional students majoring in the field. All schools or departments of social work or of any of its branches are directly affiliated with institutions of higher education engaged in work in more than the single field. While later enrollment statistics were not available at the time of preparation of this report, the executive secretary of the Association reports that enrollments are currently taking a sharp swing upward and that the larger and better established schools have been turning away students for a number of months.

The Training Program.—Facilities for education in the practice of social work are provided on three levels: first, undergraduate preprofessional study, chiefly of the social sciences and a few informational courses, preparing for some beginning positions in the field; second, one year of graduate social work study, including both technical theory and field work practice, preparing in a limited way for general social work; and third, a second year of graduate study, providing for specialization in some particular type or area of social work. The full program through two graduate years is regarded by the American Association of Social Workers as the essential basis of sound professional education. While war conditions continue to produce an urgent demand for workers, the year round acceleration of the program will be in force. Even for normal times, many members of the profession believe that some provision for continuous year-round study is needed. Very considerable acceleration, however, is regarded as unwise, since the practice of social work is not protected by a system of examination and licensing.

Activities of Professional Associations.—In addition to the American Association of Schools of Social Work, the field is covered by the American Association of Social Workers, the American Association of Medical Social Workers, and the American Association of Psychiatric Social Workers. The latter three associations issue periodicals. The American Association of Social Workers has an active program which includes continuous efforts to secure adequate legislation to provide for social work needs and various types of investigation and planning calculated to promote the improvement of standards of practice and of professional education of practitioners. Among the major committees of the latter Association for 1944 are a Committee on Organization and Planning, a Committee on the Study of Social Work Practice and its Relation to Professional Education, a Wartime Committee on Personnel, a Committee on Personnel Practices, a joint committee with representatives of land grant colleges and universities on the undergraduate training of social workers, a Subcommittee on Social Security, a Subcommittee on Medical Care, a Subcommittee on Foreign Relief, a Subcommittee on Vocational Rehabilitation, and a Subcommittee on Services to Youth.

TEACHER EDUCATION

The Shortage of Teachers.—Despite an estimated decrease in public school enrollments in 1943-44 as compared with the previous year of nearly two-thirds of a million pupils, or 2.8 per cent, more than half of whom were in the last four high school grades, the nation's educational forces are currently suffering a grave teacher shortage. At the beginning of the school term of 1943-44, more than 7,500 classrooms were vacant because teachers could not be found, and many times that number of newly employed teachers did not meet the regular peacetime standards of certification and employment. In the past two years, 273,000, or approximately one-third of the trained teachers, have been lost to other fields of work. In the fall of 1943, 169,700 teachers, or 20 per cent, were new in their positions. Practically all states now issue war emergency permits or legalize the employment of teachers with substandard qualifications by equivalent methods.

The rate of turnover and the number of new teachers are much greater in the small cities and rural school systems than in the large cities. Shortages are also more marked in certain subjects and fields than in others, notably in industrial arts, physical education, mathematics, commercial education, agriculture, physics, home economics, chemistry, trades and industry, and music. Doubtless one of the major factors contributing to the shortages is the low salary of the teacher, the estimated national average salary for 1944-45 being approximately $1,650. When compared with wartime wage and salary scales in other fields requiring comparable training, the income of the teacher appears at a distinct disadvantage.

Institutions and Students.—Some preparation is offered for teachers in 1,708 institutions of higher education. Of these, 1,196 are approved by different state departments of education for the preparation of teachers. The latter group includes 677 universities and colleges, 238 teachers colleges and normal schools, 53 independent professional schools, and 228 junior colleges.

In the fall of 1943 it was estimated by the United States Office of Education that, over the past four-year period, teacher-education institutions lost 53.7 per cent of their enrollments, nearly all of this loss occurring since 1941. The enrollment of civilian students at schools of this type in the fall of 1943 was estimated at only 72,660. In the past year, it is estimated, college faculties declined 5.5 per cent in number, 118,125 persons occupying staff positions in the fall of 1943.

Organized Professional Activities.—No account will be attempted of the full range of activities of the hundreds of teacher organizations in existence in the United States. In the specific field of teacher education activities, perhaps the most active and influential organization is the American Association of Teachers Colleges, which is a Department of the National Education Association, the largest teacher organization. The American Association of Teachers Colleges acts as a general accrediting agency, currently giving its approval to 185 institutions. Through its Accrediting Committee, the Association began in 1944 a study of the evaluation of military credit for returning veterans. The standing Committee of the Association on Standards and Surveys carried on, or cooperated in, investigations of safety education, the effect of the war upon the programs and status of teachers colleges, student teaching, the problems of teacher education in the special fields of art, etc., and the place of the Far East in teacher education programs. The Committee has under consideration at present further studies relating to religious programs and practices in teachers colleges, public relations programs, the question of the study of human growth and development by teachers in training, library buildings, faculty personnel problems, the revision of certain of the accrediting standards, and war and post-war problems of teacher education.

One of the significant developments of the past three years has been the organization of the Council on Cooperation in Teacher Education which has brought together about sixteen groups interested in some phase of teacher education. This organization has specially undertaken to carry on many of the activities sponsored by the Commission on Teacher Education of the American Council on Education, which has just concluded its five-year cooperative study of teacher education with the publication in 1944 of three volumes on "Teachers for Our Times," "Teacher Education in Service," and "Evaluation in Teacher Education."

THEOLOGICAL EDUCATION

Institutions and Students.—The executive secretary of the American Association of Theological Schools reports 104 member institutions, 64 of which are accredited by the Association. Since 1942 the enrollment in theological schools has been declining, a total of 5,490 students being enrolled in 52 accredited and 29 non-accredited institutions in the fall of 1943. In June 1943, 56 schools reported 1,562 graduates.

Educational Program of the American Association of Theological Schools. — The Association, through a special committee, has cooperated with officials of the Selective Service System in dealing with problems related to the deferment of theological students. In keeping with the requirements of Selective Service, the Association has assisted member schools in arranging for the acceleration of the theological course through the inclusion of summer programs of study. A committee has prepared for consideration by the Association a proposal for a graduate professional degree at the level of the doctorate to be conferred by an accredited theological school on the corporate recommendation of a Board of Graduate Professional Studies to be appointed by the Executive Committee of the Association. Sponsored by a Committee on Clinical Training of the Association a national conference on this subject was held in June, 1944, which resulted in endorsement by the conferees of properly supervised clinical work as an integral part of the theological course.

ADULT EDUCATION

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GENERAL

Many developments point to a great expansion in adult education. During 1944 Congress passed the so-called "G. I. Bill of Rights" (P. L. 346). Its educational provisions made it certain that service men and women returning from the Second World War would, among other things, be given the right to continue their education with the Government paying not only their tuition but subsistence as well. The act might well, over a period of years, firmly establish an adult education program in this country. The vast training program of the armed services, it will be remembered, continued during the year. Another development was the introduction by the National University Extension Association of a bill (S-1670) which provided for an adult education service from the land-grant colleges and state universities similar to but supplementing the agricultural and home economics extension service. The bill had the endorsement of the Association of Land-Grant Colleges and Universities, and of the National Association of State Universities, as well as of many state and community groups including those representing labor, women's groups, veterans organizations, and others.

A similar development was the introduction of a vocational education bill (S-1946) which would provide vocational training and retraining of veterans returning from military service, workers demobilized from war production plants and other youths and adults, and further extend the existing program of vocational education. There were other significant occurrences. Michigan voted $250,000 for an experimental program of adult education. Some of the funds were to be available to institutions of higher learning, but the greater amount went to public schools. New York State set about to establish a school of management and labor relations at Cornell University, much of the activity of which it seemed probable would be in extension. Such action would provide another organized program of adult education in this one particular field in that state.

Results of an unannounced study made by the Army seem to indicate that seven per cent of all white enlisted army men plan to take advantage of the "G.I." Bill provisions for full-time education when they return and that over 90 per cent of this group are eligible to enroll for college work. The percentage planning to register for part-time study was much higher (18 per cent). Many communities were organizing community councils so as to coordinate the activities of the many local organizations, thus enabling a community as a whole to attack post-war problems more effectively. As the year ended, the Gallup Poll made a study which concluded that the field of general adult education has barely been tapped. A poll indicated that millions of people would like to enroll in some form of adult education after the war. The majority of adults willing to enroll were not merely interested in commercial or vocational training; they wanted training of a more ambitious nature along professional, scientific, and artistic lines.

COMMUNITY COUNCILS

A large part of the job of conversion from war to peace must be done by and in each local community. Community councils are, therefore, being organized, called in some cases "coordinating councils" or "adult education councils," some with paid personnel but enrolling chiefly an army of volunteers. Projects, such as workshops, are conducted to develop community leadership. These councils are attacking such problems as rehabilitation, surveying community recreation and welfare facilities, organizing counselling and guidance agencies for returning service men, attacking problems of racial antagonism and youth delinquency, and developing local programs of adult education. The National Committee on Economic Development announced that the close of the year found 2,000 committees surveying local industrial opportunities and prospects for full employment. So important was this development considered to be that the American Association of Adult Education began to publish periodically an *Inter-Counseling Newsletter*.

Typical of this community effort was that which took place in Altoona, Pa. and which was editorialized upon by the *Saturday Evening Post* and other magazines. As an off-shoot of the city's post-war development committee, two panels of selected business and professional men and women took short courses in counselling and guidance techniques which were led by staff members of The Pennsylvania State College. Following this, the panel proceeded at once to get in touch with the area's 12,000 service men and women, informing them that they proposed aggressively to secure jobs for them as the group returned. The idea met an enthusiastic response from service men at the front.

Other developments were of equal interest. The occupational information and guidance service of the United States Office of Education called a conference of representatives from seven states to organize committees for adult counselling services in selected communities. The extension division of the University of Oklahoma established a series of community clinics. The Connecticut state department of education reported on five years of experience in organizing citizens councils. Illinois set up conferences on community cooperation. Columbia University conducted a course in Administration of Adult Adjustment, and its Institute of Adult Education published *Marching Home* which considered retraining problems of returning service men. The University of Virginia extension division conducted a workshop on community programs in action. The Montgomery County (Pa.) federation of women's clubs organized three workshops on community coordination which were instructed by a representative of The Pennsylvania State College extension services. The New York Adult Education Council mapped out and pursued a vigorous program of community planning for adult education needs which will follow the war. This program was initiated through the work of a committee which issued a report "Post-war Adult Education in New York City." Special emphasis is being put upon the attempt to develop larger tax-supported programs of adult education in New York City, for these programs lag behind those of voluntary agencies, but these agencies, carrying on activities designed to help returning service men, could not lose sight also of the needs of other war casualties such as dislocated war workers and out-of-school youth; they, too, have a difficult adjustment to make when peace comes.

WORKERS' EDUCATION

Labor continues to have educational needs which are not being met by adult education agencies. Mark Starr, educational director of the International Ladies' Garment Workers Union, in an article in *Current History* (October, 1944), pointed out that labor has educational needs other than the fighting culture developed on the picket line. He stated: "There is no reason whatever why every college of importance should not recognize the needs of unions and give their active members and leaders appropriate courses in economics, political science and labor law"; also, "the proposal to get federal aid and extend the scope of the land-grant colleges to industrial workers will be necessary to do an effective job on a national scale." The University of Indiana during the year made a check by means of questionnaires on the educational needs of unions. The University of Cincinnati announced special courses for labor leadership.

In Michigan, from a sum of $250,000, a fund given to the schools and tax-supported institutions to carry on a program of adult education, $25,000 was set aside for a trial program of workers' education to be carried on by the University. A special staff to administer the program was established, consisting of two persons full-time, one half-time, and 12 or 15 part-time persons teaching classes in various parts of the state. The first Montana labor institute was held at the University of Montana. Two hundred delegates attended the second annual institute held at the University of Minnesota. The People's Education Center, non-partisan education institute was established in Los Angeles to "Build a Bridge Between Labor and Learning." Temple University set up a course for union executives, union chairmen, and others interested in workers' education. In New York City, ILGWU set up an officers' institute which drew an attendance of over 300 union officers.

The Pennsylvania State College had 200 shop stewards registered for courses in training for production supervision. The Colorado State Federation of Labor and the University of Denver sponsored an institute attended by over 200 delegates. The fifth annual institute sponsored by the Indiana State Federation of Labor at Indiana University also had an attendance of over 200. Similar projects were conducted at Rutgers, Wellesley, University of North Carolina, and elsewhere. Lecturers were exchanged between the Workers' Educational Association of Great Britain and the Workers' Education Bureau of America. The American Labor Education Service held its fifth annual Midwest Workers' Education Conference at Racine, Wis. The research and education division of the CIO (Congress of Industrial Organization) prepared a special series of pamphlets on economic topics and others, for wide distribution to its members. New York's governor, Thomas E. Dewey, reported: "One of the most important things we did this winter was to create through action of the legislature, a state school of labor and industry at Cornell University." Studies preliminary to opening of this school went on through the year.

AGRICULTURAL EXTENSION AND RURAL LIFE

The big event of the year for rural education was the first White House conference on rural education called by the National Education Association, Oct. 3-5, attended by 230 specialists in that field. The conference pointed up the facts that roughly 25 per cent of the nation's population are farmers; with 10 per cent of the national income these farm families rear and educate 31 per cent of the nation's children; the steady rise of farm tenancy; 15 per cent of the farms equipped with electricity and 16 per cent with running water; and one-third of rural families without library facilities. The chief value of the conference was in emphasizing the lack of rural educational opportunities.

Rural adults receive educational services from vocational agricultural staffs serving locally. Rural areas are served also by the agricultural extension service. In March 1944, there were county agents in 2,868 counties of the country, 207 being without them. County agents have been symbols of better farming and better rural living. Armed with scientific facts, they have raised standards of living. War brought greater responsibility to the cooperative extension services. By executive order of the President in March, 1943, the extension service became a part of the War Food Administration.

Again in 1944, Congress directed the agricultural extension service to assume responsibility for recruitment and placement of necessary farm labor. Significant developments in agricultural extension included educational assistance to farm people in order that they might more adequately meet wartime demands. Emergency funds were provided for this purpose. A second development was the increased interest expressed by urban people in services available through agricultural extension, because of a greater appreciation of the inter-relationships existing between agricultural and urban welfare.

UNIVERSITY EXTENSION

Returning service men will, in large part, wish to return to normal business and family life in their own communities. Educational opportunities must be taken to these individuals. It seems obvious that the Federal Government should establish a general education program for adults patterned after the notably successful agricultural extension program. Examples of offerings and trends in university extension follow. The University of Michigan, with its parent education conferences held in 11 different centers to date, attracted a total attendance of 3,500 persons. The University of Omaha reports increasing interest in non-academic and non-credit courses for returning service men and industrial workers. The University of North Carolina carried forward a 20-point recreation program for that state, with the cooperation of several other agencies; and it worked closely on a series of activities with the Southern Council on International Relations.

The president of Louisiana State University expressed his intention of expanding the adult education program of that institution. At The Pennsylvania State College institute projects served many new groups, including the hospital administrators of Pennsylvania; and a new short course in buying and building the home was offered. Texas Technological College had a gain of ten per cent in its correspondence registrations. William and Mary has large centers at Norfolk, Richmond, and Newport News. Oklahoma Agricultural and Mechanical offers graduate instruction to teachers in service in home economics and nursery school work.

Washington State sees a trend toward the informal type of adult education, with a number of institutes being held in visual education and social hygiene. The University of Chicago has been active in the preparation of self-teaching home-study syllabi. The University of South Carolina received a $10,000 grant from the legislature to carry on in-service education for teachers. Ohio University plans a non-credit program of adult education and looks forward to having an FM radio broadcasting station. Columbia University, in common with a number of other metropolitan institutes of learning, offers an extensive program of afternoon, evening, and Saturday classes. The University of Nebraska was active in preparing a citizenship education course for non-citizens; responsibility for all institutes, short courses, and conferences of less than four weeks duration was centered in the extension division; a radio "University of Nebraska Forum of the Air" was broadcast over all stations in the state; and community schools were established to promote the organization of community councils.

The University of Missouri is making extensive plans for the expansion of its adult program. At the University of Iowa conferences and institutes on child development and parent education, inter-American affairs, law enforcement, elementary and secondary education, audio-visual aids, speech, drama, art, management, physical education, and post-war planning were held on the campus during the year. Institutes on family life and on vocational education were held at the University of New Hampshire, and a start was made in the field of workers' education. The University of Connecticut, in less than five years, has built up an off-campus registration in 11 centers of more than 1,000 persons. The University of Washington announced a community forum series for 36 different communities. The University of Colorado gathered information concerning community area and state problems, and in August published *Colorado's Current and Post-War Problems*. The University plans to offer a variety of services to aid communities in solving these problems.

At Purdue University there was established a division of technical institutes. Institutes have already been established in three industrial areas with instruction offered in six different curricula. The average age of students entering during the first year of operation was 30 years. The program of the institutes follows closely the recommendations made by a committee of the Society for the Promotion of Engineering Education. The Oregon State System of Higher Education notes that Portland center registration exceeded that of any term except the fall term of 1926. At the University of Minnesota the graduate school now allows a limited amount of graduate credit to be earned in extension, and conferences have been initiated looking toward possible reorganization of the university's activities in adult education.

North Dakota Agricultural College reports that 10 per cent of the population of North Dakota was reached by distribution of its 16 mm. war films. Indiana University saw a sharp up-trend in demand for correspondence instruction and visual aids. In the past year, 28,844 motion picture reels were distributed to over 1,000 community groups. Syracuse University saw a doubling of registrations over 1943. Montana State University gave a short course in practical Spanish to 200 farmers and business men employing Mexican laborers.

The Engineering, Science, and Management War Training program was continued during the year, but on a smaller scale. Appropriation for this training by colleges and universities was reduced to $10,000,000 by the Congress for the fiscal year 1944-45. Pressure of overtime work and of other wartime activities, as well as the fuller development of the war production effort, tended to diminish the size of the program. Accordingly, the U. S. Office of Education tightened the regulations, restrictions, and eligibility of applicants for these free courses of study. Figures for total enrollment in 1943-44 approximated 274,600 persons.

PROGRAM FOR THE ARMED FORCES

The adult education program of the armed forces is the largest of all time. The Program of our Army in the European theater of operations might be divided into three parts: orientation, education, and information. Education in military and current affairs constitutes the orientation phase which is given on training time and is a command function. The educational phase is an entirely voluntary one and is carried on in off-duty time. Its purpose is to give service men and women the opportunity to supplement their training for Army jobs; to continue their education; to satisfy intellectual interests; and to better fit themselves for return to civilian life. Educational officers have been assigned to headquarters of the European theater of operations. Their functions include the following: planning and developing educational services for military personnel through the materials provided by the Armed Forces Institute; enrollment of personnel in Institute courses; arranging for educational programs available to military personnel in off-duty time. Personnel of the American Army may now attend, on temporary duty time, one-week classes which are conducted at various British colleges and universities. Foreign language courses are much in demand, and self-teaching and group instructional methods are available for those who wish to organize classes. Through the Council on Books in Wartime, Inc., the Army is now buying every month 50,000 copies each of 30 titles of current and standard books, both fiction and non-fiction.

The Navy's educational services program is administered through the Educational Services Section of the Bureau of Naval Personnel. Objectives are as follows: to improve military efficiency; to provide opportunities to continue or complete high school or college education; to prepare for eventual return to civilian life; and to improve morale. Educational programs include voluntary off-duty classes, correspondence courses, use of self-study materials, war orientation, and the provision of factual information on educational and vocational opportunities. The program is in operation at overseas and continental bases, is being extended to the Fleet, and is an integral part of the Navy's rehabilitation program in naval hospitals. Off-duty classes are organized in subjects closely allied to the military duties of naval personnel, as well as in general subjects. Popular courses taught by volunteer teachers include mathematics, physics, navigation, bookkeeping, shorthand, Spanish, radio, and English. The war orientation phase is intended to keep naval personnel informed on the background and progress of the war. The program utilizes news talks, special lectures, pamphlets, movies, and many visual aids.

An organized counselling service is an important part of the educational services program. Officers of this program are trained in counselling techniques and in the use of files of occupational and related information. Counselling interviews average over 12,000 monthly and cover questions relating to completion of educational programs as well as post-war and Navy careers. In the Navy, languages have also proved very popular. Recordings and language manuals for more than 50 languages have been provided for ships and stations all over the world. Much use is made of educational films at hospitals. The Navy's educational services program affects directly or indirectly the majority of naval personnel. In 1944, about 100,000 were enrolled in correspondence courses. An estimated 250,000 enrolled for classroom instruction. Upon official request, self-study material and reprints of standard texts were supplied for an additional 750,000. Finally the war orientation program reached the vast majority of all naval personnel.

While the Marine Corps and the Coast Guard each have their own institutes offering correspondence instruction and other educational services, these two services participate in a portion of the Navy's educational program. They, with the Navy, make use of the service of the United States Armed Forces Institute.

Women in the armed services also have their educational programs. In the Navy for example, all WAVES receive training which extends in scope from a general introduction to Navy life to such highly specialized fields as aerological engineering and photographic interpretation. A few of the fields of study open to officers include communications, aerological engineering, electronics, and supply. At a naval school in Florida women learn to become air navigation instructors. A special group of officers was enrolled for a 14-month course in the Japanese language.

ARMED FORCES INSTITUTE

Services of the Armed Forces Institute were much more widely used by the armed services in 1944. Fully equipped branch schools now exist in nine major theaters of war: Alaska, Australia, Italy, Egypt, England, India, New Caledonia, Hawaii, and Panama. Five hundred courses in 17 broad fields of study are offered. Included are courses offered by some 80 American colleges and universities. There are now 860,000 service men and women in every part of the world busily studying, and enrollments come in to the Institute at the rate of approximately 1,100 per day. Seventeen hundred service students who did not finish high school have now earned their final diplomas by mail. Two hundred others have completed their college work. Self-teaching courses, particularly fitting for service men in remote posts, have been prepared. American prisoners in German prison camps receive these courses through the International YMCA and the International Red Cross Committee at Geneva. Instruction in such subjects as foreign languages and music has been made novel, fascinating, and interesting. Regarded as a potent morale builder, this school-by-mail is by all odds the greatest mass educational project of our times.

AMERICAN RED CROSS

Major progress has been made in adult education activities of the American Red Cross with its 3,756 chapters. Red Cross trained 5,351 men and women for domestic and overseas work at the American University in Washington, D. C. One hundred and fifty scholarships were also made available to social workers for attendance at graduate schools of social work, so that they might qualify for hospital and home service activities. Through Nov. 30, 5,625 volunteers were trained as members of the home service corps. In 1943-44, certificates were issued to 17,798 adult women for hospital and recreation service.

Red Cross continued its activities in the field of nutrition, setting up information centers featuring food and food preservation demonstrations, and talks and exhibits. This information was made available particularly to those whose lives were affected by war activities. To meet the problem of decreasing medical and nursing personnel, home nursing course enrollments were stimulated, and 16,253 nurse instructors taught this course to 285,789 persons.

At the request of the military, the Red Cross offered a broad program of first aid, water safety, and accident prevention, in the many Army, Navy, Coast Guard, and Marine installations throughout the United States. In the armed forces 114,429 members were trained in water safety courses; 15,051 pre-inductees were instructed in combat swimming procedures; and first aid certificates went to 155,300. Civilians certificated included 606,481 in first aid; 85,733 as first aid instructors; 173,178 swimming; 63,123 life-saving; 19,837 as water safety instructors; 8,498 accident prevention; and 4,471 as accident prevention instructors. The Red Cross conducted many other activities as well, and through its constant program of adult education, expanded now to meet wartime needs, continued its policy of giving knowledge along with humanitarian effort.

WOMEN'S ORGANIZATIONS

A step toward greater participation of women in public affairs occurred on June 14, when 200 women gathered at the White House to confer on How Women May Share in Post-war Policy Making. Half of those present represented approximately 75 women's non-partisan national organizations. The National Education Association joined with the American Association of University Women, the National Association of Business and Professional Women's Clubs, and the General Federation of Women's Clubs in calling the meeting.

The American Association of University Women found, during the year, that the gas shortage, maidless households, and overcrowded schedules interfered to some extent with their study group work. The Association continued, however, to stress its study programs on international affairs, social welfare, adult education in the arts, and the economic and legal status of women. The National Federation of Business and Professional Women's Clubs adopted a new statement of objectives in July as follows: "That we conduct an adult education program for the study of social, economic, and political conditions throughout the world and undertake to train women to accept their full responsibility as citizens." Projects recommended to member groups included community forums, studies and surveys, service to young people, educational projects and others which would lead to cooperative community action. The General Federation of Women's Clubs now has a membership of 16,500 clubs and 2,500,000 women. Its range and diversity of interests is wide. The primary function of the Federation is stated as being education with its corollary—service. Emphasis in the current year's education program has been placed on home making.

RELIGIOUS EDUCATION

The International Council of Religious Education, representing 42 American Protestant denominations, reports an increasing tendency to think of the church's adult education program as consisting of all elements in the total program which affect adults. Emphasis on the young adult work, particularly with regard to the problems faced by the church in the demobilization period, is increasing. The fact that the influence of the church and of religion does not seem to be growing as rapidly as church membership is increasing, occasions special emphasis on a higher quality of church membership and more thorough preparation therefor. The United Christian Adult Movement, which is the overall program pattern for adult education in the Protestant churches, is undergoing a complete re-study in the light of emerging needs during the war and post-war period.

The USO (United Service Organizations, Inc., representing six national religious groups) continues to serve as an agency of adult education to the men and women of the armed forces. Increased use of motion pictures as a means of providing topical material or stimulating discussion groups, is reported. The USO, through one or more of its member agencies, now operates 2,529 clubs or units in 47 states and 16 off-shore bases. Total monthly attendance at all centers has soared into the millions. Over 2,500 professionally trained workers are now employed at USO centers. A large number of volunteers also assist in the program.

The National Academy for Adult Jewish Studies reports having held nearly 100 institutes, with 3,000 persons enrolled. In addition to regular courses of study in congregations for civilians, the Academy has branched out into educational service for the armed forces through nearly 300 Jewish chaplains and 400 Jewish Welfare Board representatives. Many of the Academy texts have been used in army camps and naval bases for these programs throughout the world.

The YWCA devoted itself to education, recreation, and personal help, quite largely to young women industrial workers. A scarcity of volunteer workers for the staff existed, however, and added to this were problems of turnover of professional staff and of buildings inconveniently located for women industrial workers. The YMCA gave attention in its regular program to such post-war problems as vocational guidance, placement counselling, and community projects. The organization of study groups was fostered, and study materials were prepared by its committee on public affairs, which considered post-war employment, history of relations between government and business, race relations, what to do with Germany, should we have permanent military training, and other topics.

OTHER GOVERNMENT SERVICES

Many divisions of the Federal Government, other than those elsewhere referred to, prepare excellent materials for use by agencies of adult education. Divisions, such as the bureau of human nutrition and home economics of the Agricultural Research Administration, issue bulletins such as those on home canning, on human nutrition, and on possibilities of home freezing of foods.

The Bureau of Prisons of the Department of Justice reports an extensive vocational training program in the institutions under its jurisdiction. Some 2,200 inmates were enrolled during the year. In addition, there were 6,000 enrollments in the general and academic program which was characterized by the use of educational films and other visual aids, informal group activities, inmate forums, and current event study sessions.

The Office of War Information points out that it operates, in fact, a vast adult education program for a nation at war, designed to channel to the American public all information necessary for the effective support of the war effort. The agency is forbidden to issue pamphlets or other material for general circulation on the home front. It must use media already presenting information to the public.

The Immigration and Naturalization Service of the U. S. Department of Justice, sponsored the highly important adult citizenship program. No Federal support was available to schools for financing classroom instruction. Classes had to be maintained by local funds. Furthermore, many citizenship teachers were drawn into war activities. While the exact picture of citizenship activities was not easy to obtain, nevertheless, it is ascertained that nearly 3,000 citizenship classes were held during the past year, with an approximate enrollment of nearly 100,000 students. The New England states have always been known for the excellency of their citizenship education for the foreign born. In New York over 700 classes were conducted in 70 communities, with a student enrollment of 20,000. In Pennsylvania, over 4,000 were enrolled, the majority of whom were in

Philadelphia and Pittsburgh. More than 2,000 students were enrolled in the Americanization School in Washington, D. C. The number of foreign born located in southern states has always been small. With the exception of Wisconsin, middle western states do not have state-supported or sponsored programs of citizenship education. California has for many years had an extensive program of adult education, financed in part by state funds. Reports indicate that last year, 400 classes were conducted, with a total enrollment of 9,000 students. The following needs exist for more equal educational opportunities for foreign-born in all sections of the country: continued assistance in recruiting and organizing classes; improved educational materials for class and home study use; and improvement of appropriate ceremonies introducing foreign-born adults into citizenship.

OTHER ADULT EDUCATION ACTIVITIES

The American Library Association announced, in October, an adult education policy for libraries in the immediate and post-war period. It plans to extend its reader advisory service, with increased opportunities offered for self-education and group study; to improve service to communities; and to provide leadership in presenting positive and objective materials on current issues, including a greater use of audio-visual aids. It was hoped to have libraries project themselves into community life through service to civic, church, labor, farm, and other groups, which would find their best materials for discussions, study and film forums, in the library. Books, magazines, and pamphlets were being supplemented by pictures, sound films, film strips, and photographic recordings. Libraries were urged to participate in community activities, especially in adult education councils. Libraries were presented as being potentially the best single source for informal self-education. (See "Libraries," p. 1025.)

The American Legion, chiefly through its Americanism Commission, endeavored to carry on a program of education. Of interest to adult educators, is its promotion of citizenship education for foreign born; and its safety activities (during the current year a safe-driving film for national distribution by the Legion, was produced by The Pennsylvania State College motion picture unit). Many other activities were primarily designed to inculcate the principles of Americanism in our youth.

The National Health Council, composed of 18 national organizations concerned with major fields of public health—mental and physical—in America fosters information services of various kinds. Such services include motion picture health films, conferences, health posters, periodicals, and bibliographies.

The American Country Life Association held a three-day conference in April to discuss farm and rural life after the war. The organization provides a national discussion group for all people interested in rural life.

National Recreation Association.—Public interest in recreation increased in 1944, with the National Recreation Association serving more than 600 communities. Emphasis was laid especially on recreation programs for returned service men; on recreation in Army and Navy hospitals and rest centers; on post-war planning for recreation; and on recreation for industrial workers. The Association has helped through field service, by consultation, by correspondence, and by the development and publication of special materials. Training institutions in this field were conducted in 60 cities. Three regional conferences on industrial recreation programs were held. The monthly magazine, *Recreation,* goes to recreation leaders in 1,900 communities, and special bulletin services go to about 1,000 communities.

National Congress of Parents and Teachers.—Adult education forms a prominent part of the work of the National Congress of Parents and Teachers. This work is conducted through the state branches and local units of the organization and is implemented by National Congress publications. A national standing committee is maintained for the fostering of parent education activities throughout the nation, and corresponding committees exist in most state congresses and local units. For 1944-45 the two annual study courses presented by the National Congress through its official magazine, the *National Parent-Teacher,* are "Guiding the Citizens of Tomorrow" and "Life at the Preschool Level." In addition to the monthly article upon which each course is based, the *National Parent-Teacher* offers study outlines, book and motion picture reviews, and suggestions for their use by parent-teacher study groups.

The National Safety Council spearheads safety education activities in the nation. All of its work is educational and much of it deals with adult education. Activities are carried on not only in the very important field of traffic safety, but also in the fields of pedestrian control, protective safety in the home, farm safety, water safety, safety in V-day activities, industrial safety, and the like.

American Association for Adult Education. — The national professional associations in adult education, represented by the American Association for Adult Education and NEA's Department of Adult Education, continued publication of their respective journals, contents of which probably constitute the best record of events in the field. Articles of professional interest included, form a commentary on the various programs. The annual report of the director of the American Association of Adult Education stresses the need for consciously training men and women for leadership in adult education, in a country whose government now admittedly depends heavily on pressure groups to express the will of its people. The Department of Adult Education held its annual meeting in Pittsburgh. Emphasis was placed on the important and significant part which adult education must play in international affairs.

American Council of Education.— In June there appeared a significant study by the American Council of Education, a Design for General Education, which reports a carefully considered proposal for general education of members of the armed forces. Not only goals were considered, but specific courses were outlined.

This is in no sense a complete listing of the many organizations making significant contributions in the national picture of adult education. It may not even be a representative one. Extensive programs of adult education go on in plant training programs, in museums, and in the exceedingly important local programs of adult education, organized by the public schools. Many other national organizations have established programs, each in its own interest, which in the end substantially contribute to the education of adults in America.

THE RADIO IN ADULT EDUCATION

The value and development of all media of adult education can not be considered here, but it should be noted that the movement continues to lack suitable materials for effective adult teaching. Existing textbooks have been written chiefly for academic classroom use. It seems likely that out of the experience of the armed services, in carrying on vast educational programs, will come methods and media which might almost be termed revolutionary in nature. In much of the army training, valuable and exceedingly important information had to be taught in brief, intensive courses of instruction. These courses, it is known, make extensive use of audio-visual aids. The Armed Forces Institute has developed self-teaching materials which have excited interest on the part of educators and librarians.

Great hope for the development of a national program of educational broadcasting is held for the time when FM stations are constructed. The large chains now present several well-conceived educational broadcasts, but programs generally are becoming prostituted by numerous so-called "commercials." On Oct. 13, 1944, Commissioner of Education Studebaker, appeared before the Federal Communications Commission to ask for allocation of additional FM broadcasting channels, beyond the five already promised for educational broadcasting. His request was based on concrete evidence that a substantial number of school systems, colleges and universities, and state departments of education, in 34 states, were already making plans to construct FM stations in the post-war period. At the outbreak of the war, five educational institutions had FM broadcasting equipment in use: the boards of education of Cleveland, New York City, Chicago, and San Francisco, and the University of Illinois. The Commissioner pointed out in his testimony that educational institutions applying for these channels expected to broadcast adult education programs of an informational nature which, however, lack sufficient audience-appeal to be offered by regular commercial stations. In closing, he asked for the allocation of a minimum band of 15 consecutive channels, located immediately adjacent to the commercial FM band. In addition, he urged reservation for educational institutions, of at least two television broadcast channels, as well as a number of relay transmission frequencies.

One of the larger contributions of the radio chains in 1944 in informing the public, was continuation of worldwide dissemination of news of international and national importance. Provisions for discussion of questions of public interest on radio forums and in talks by the nation's leaders was continued. Columbia Broadcasting System's School of the Air began its 15th year of broadcasting into the schools and homes of this nation and Canada. Service men and women stationed overseas, through the 400 armed forces' radio service broadcasting stations, constitute a vast new audience. Town Hall, which celebrated its 50th anniversary as a center of political and civic education, will also celebrate shortly the tenth anniversary of its Town Meeting of the Air.

PAMPHLETEERING

Pamphlet material, which can profitably be used in educational programs, was being published by such agencies as the National Planning Association, the Public Affairs Committee, Inc., and the University of Chicago Round Table. In fact, many agencies such as agricultural extension, began to give attention to pamphleteering.

EDUCATIONAL FILMS

Educational film production promised to present big opportunities in post-war years. The Educational Film Library Association, with a total membership of over 500 educational institutions, agencies, and individuals, including 74 universities and colleges, 48 public and private schools, museums, libraries, and other agencies, was interested in the production, marketing, distribution, and utilization of films and other audio-visual aids in education. The Association maintained, or served as a clearing house for educational and documentary films and published *Film News,* a journal of general interest in this field.

THE FUTURE

It seems clear that adult education faces its most promising period. Local school systems plan to offer larger programs of general and vocational education for adults. Many colleges and universities are, for the first time, beginning to enlarge their off-campus services. The College of the City of New York, for example, has launched an extensive program of courses for adults in the 55 branch libraries of the New York Public Library. These units were intended to be "neighborhood colleges" for adults. It is entirely likely that colleges and universities will stress the informal type of adult education in the future more than has generally been done in the past.

While America has more high school and college graduates than any other country, we may yet go far before approaching what might be thought of as a saturation point in education.

Education has made great strides since the last war, when 41 per cent of soldiers in the Army had not completed seventh grade. In 1942, 60 per cent had completed second year high school and 40 per cent were high school graduates. There were, however, almost two and one-half times as many adults who never went to school at all, as there were students in colleges and universities, and nearly three times as many "functional illiterates" (fourth grade or less), as there were adults who completed college. It was against this background that adult educators were working.

As the year ended, further announcement was made by the War Department of its educational plans. They provided for establishment of a sizable number of schools and colleges in Europe after the war to provide free educational facilities for American soldiers. Four types of institutions would be maintained: unit schools, technical schools, army university study centers, and civilian colleges and universities. Everything from the teaching of illiterates to graduate study would be included.

Alvin Johnson, head of the new School for Social Research, pointed out recently that we live in an age of increasing complexity of political, social, and economic organization. To conduct our lives rationally, we need more intellectual competence than can be set up out of the holdover of our college education and the half-analyzed material life heaped on us. Very little effort is spent in training teachers to conduct adult education courses, and little public money, relatively, is available for adult education. Dr. Johnson continues that the public has a right to expect, from educational statecraft, the establishment in every center of population of institutions devoted to the liberal education of adults.

NEGRO EDUCATION

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GENERAL

Leaders in American Negro education, both North and South, began and ended the year 1944 on one basic theme—the Negro minority group of over 13,000,000 men, women, and children is an integral part of American life and in all matters, including education, should be treated without prejudice. The Negro, therefore, should be allowed to share in all the advantages of the American way of life, especially since this minority group has contributed over 700,000 men to the Army, of whom 411,000 are overseas.

This review for 1944 covers a few high spots in Negro education which is as encouraging, in evidence of progress, as it is complicated by the almost violent interaction of opposing economic, social, and psychological forces.

THE MYRDAL INVESTIGATION

An American Dilemma: The Negro Problem and Modern Democracy by Dr. Gunnar Myrdal, which represents the combined research efforts of some 75 experts in an investigation of almost every facet of Negro life in America and which cost the Carnegie Corporation almost $300,000, was the outstanding contribution of 1944 to the literature dealing with Negro education. Dr. Myrdal wisely used the writings of outstanding Negro educators, including W. E. B. DuBois, Booker T. Washington, Robert R. Moton, and Kelly Miller, as well as those of such white writers as Ray Stannard Baker, Edgar Gardner Murphy, and Thomas Nelson Page—all keen students of Negro-white relations, especially in the field of education.

"The Negro problem," according to

Dr. Myrdal, "is an integral part of . . . the whole complex of problems in the larger American civilization. There is no single side of the Negro problem . . . which is not predominantly determined by its total American setting. . . . The American Negro problem is a problem in the heart of the American. It is there that the interracial tension has its focus. . . . The 'American Dilemma' . . . is the ever raging conflict between . . . the 'American Creed' . . . and . . . group prejudices against particular persons or types of people . . ." (Here "American Creed" stands for national conscience; and, as Charles H. Thompson pointed out (*Journal of Negro Education,* Spring number), the Negro is a "problem" to the average American partly because of a palpable conflict between the status actually awarded him and the ideals of the "American Creed."

Thompson's comment is significant: "One of the most important conclusions one can draw from Myrdal's study is that one of the most fruitful attacks upon the race problem in America is to increase this tension in the heart of America" (*op. cit.*).

Dr. Myrdal studied practical questions concerning the status of the Negro, both for today and tomorrow, and was concerned with the future of race relations in America. He discarded the fatalistic do-nothing bias of previous social scientists and applied to the study of the Negro problem premises that had dynamic and immediate value in pointing out the way to present and constructive programs of better race relations.

PUBLIC EDUCATION

Elementary.—Separate schools for white and Negro pupils are maintained by 17 Southern States and the District of Columbia. Approximately 86 per cent of the Negro population five to 17 years of age in this area were enrolled in public elementary and secondary schools (white, slightly over 85 per cent), according to *Statistics of State School Systems* by David T. Blose and Henry F. Alves (issued in 1944 by the U. S. Office of Education).

There were 2,113,288 Negroes in elementary schools (88.6 per cent of the total of 2,386,471). The distribution follows: Kindergarten, 7,339 (0.3 per cent); first grade, 593,369 (24.9 per cent); second grade, 294,753 (12.4 per cent); third grade, 279,985 (11.7 per cent); fourth grade, 256,845 (10.8 per cent); fifth grade, 234,320 (9.8 per cent); sixth grade, 197,874 (8.3 per cent); seventh grade, 171,974 (7.2 per cent); and eighth grade, 76,829 (3.2 per cent).

The concentration of Negro children in the first three grades is still very high, although it has been greatly reduced during the last two decades. The percentage of white distribution follows: Grade one, 11.9; second grade, 9.5, and third grade, 8.9.

The elementary schools enrolled 88.6 per cent of total enrollment while the whites constituted 76.3 per cent.

Secondary.—There were 273,183 Negro pupils (11.4 per cent of the total of 2,386,471) in high schools. The distribution follows: First year, 102,939 or 4.3 per cent (white, 7.4); second year, 74,272 or 3.1 per cent (white, 6.2); third year, 54,498 or 2.3 per cent (white, 6.4); and fourth year, 40,500 or 1.7 per cent (white, 4.6). The post-graduate group for Negroes included 974 (whites, 9,292).

For Negroes the high schools enrolled 11.4 per cent of the total enrollment, as against 23.7 per cent for whites. Approximately 40 per cent of Negro high-school enrollment was boys (white, 47.2).

The Negro high-school graduates in 1941-42 numbered 33,784 (male, 12,452 and female, 21,332), as compared with 30,000 in 1939-40. The Negro high-school graduate was 18.1 or about 0.4 older than the average for the white graduate. These 33,784 Negro graduates were distributed by age as follows:

	15 or less	16	17	18	19	20	21 or over
Male	268	820	1274	1122	683	319	174
Female	698	1851	2529	1768	903	319	144

Attendance, Teachers, School Term.—Nearly 2,000,000 Negro pupils were in average daily attendance, that is, nearly four out of five Negroes of school age. The ratio for whites was nearly six out of seven pupils. There were over 66,000 Negro men and women on instructional staffs—243 supervisors, 1,200 principals, and 64,729 teachers (including 12,040 men and 52,689 women).

States with separate schools for white and Negro pupils have been steadily, if somewhat slowly, lengthening the school term for Negroes, until the average for 17 Southern States is nearly 157 days (as compared with 170 for white children). Maryland heads the list with 185.5 days, and then come Delaware, 183; Virginia, 180; Missouri, 178.7; and Oklahoma, 175. The same states also made the best show in average number of days attended by each Negro pupil enrolled. There was also a positive correlation between the percentage of school term not attended by white pupils and not attended by Negro pupils. In a five-year period, the average number of days attended by Negroes has risen from 111 to 128 (whites, from 134 to 149.6).

Pupil-Teacher Ratios.—The number of pupils enrolled per instructional staff member was 36.1 for Negroes (for whites, 28.6). In Kentucky the ratio for Negroes was 27.7 (whites, 30.6); Oklahoma, for Negroes 23.8 (whites 26.8). On the other hand, the Arkansas ratio for Negroes was 41.2 (whites, 32.7); Louisiana, for Negroes 40.2 (whites, 26.8); and Mississippi, for Negroes, 42.4 (whites, 29.4). Progress, however, has definitely been made in improving pupil-teacher ratios in Negro schools throughout the South during recent years. In 1929-30, for example, the ratio for Negroes was 44.4 (white, 34.5); but in 1941-42 it was 36.1, as compared with 28.6 for whites. Negro and white leaders have worked diligently on this problem and, while they have achieved much success, they have come to realize that some Federal aid is needed to equalize the teaching loads of teachers regardless of race.

Salaries.—Average annual salaries for Negro teachers in 14 Southern States ranged from $226 in Mississippi to $1,593 in Maryland. For white teachers the average annual salaries ranged from $712 in Mississippi to $1,796 in Delaware (Negro teachers, $1,440). The District of Columbia had the same average annual salary for both its Negro and white teachers; namely, $2,329.

The average annual salary per unit of instructional staff, as given by Blose and Alves in *Statistics of State School Systems,* published in 1944, follows:

	White	Negro
Alabama	$ 923	$ 458
Arkansas	740	441
Delaware	1796	1440
Florida	1282	671
Georgia	961	460
Louisiana	1302	547
Maryland	1741	1593
Mississippi	712	226
Missouri	1211	1403
North Carolina	1079	867
Oklahoma	1125	1074
South Carolina	1038	465
Texas	1147	754
Virginia	1133	765

The countrywide average salary of teachers in public schools in urban areas was nearly $2,000 (rural areas, $959). For 25 states, however, the annual average rural teacher's salary was less than $1,000. For 23 states the annual average urban teacher's salary was less than $1,500. These facts throw some light on the problem of increasing the average annual salaries of Negro teachers.

Expenditures. — Sixteen southern states and the District of Columbia spent in 1941-42 for Negro public schools: $33,552,711, for instruction; $2,225,478, for operation of plant; $2,158,630, for auxiliary agencies (including $113,291 for promotion of health, $1,059,858 for transportation of pupils, and $173,296 for other items); and $2,278,151, for general control.

Eleven southern states for the same period spent the following sums on Negro public schools: fixed charges, $1,054,629; current expense for full-time day schools, $42,450,176; capital outlay (including new buildings, sites, alterations, and new equipment), $1,575,828; interest, $75,118; Summer, evening, adult, part-time schools, $109,803.

These items produce a grand total of $44,210,925 for all Negro public schools, when separately reported, which does not include $236,579 for debt service, such as payment of bonds and short-time loans.

Administration.—The creation of Negro public schools by legal enactment has simultaneously created Negro educational leadership. J. Irving E. Scott of Jacksonville, Fla., presented (*Journal of Negro Education,* spring number) some of the problems that face Negro principals: meeting higher educational requirements; living on half the salary paid to a white southern principal, who in turn receives about 50 per cent less salary than that of a white principal outside the South; working on a limited tenure of 5.5 years; combining teaching in science, social studies, or mathematics with administration and supervision, and competing with others for administrative authority. While Scott based his findings on Florida Negro schools, he hit upon important basic problems in the administration and supervision of Negro elementary schools over a very wide area in the South.

NEED OF FEDERAL AID

On Jan. 15, 1944, the Legislative Committee of the American Teachers Association (teachers at work in Negro schools) met with the representatives of 10 or 12 leading organizations, devoted to the educational, economic, and political interests of the American Negro population, and after consultation issued to Negro voters and organizations a significant "Statement on Federal Aid to Education" in which the following propositions were emphasized: (1) The original bill was sent to the Senate Committee without a vote having been taken for or against it; (2) The bill contained careful and detailed provisions requiring that wherever there are separate schools the Negro's share of all the appropriated money should not be less than the Negro's percentage in the population; (3) The bill provided that states could not use this new Federal money as a means of reducing their local contributions to Negro schools; (4) The Langer Amendment, to the effect that the Federal Government should determine how the states were to divide their own financial subsidy, created opposition among men and women of the South who believed it would be improper for the Congress to attempt to control the distribution of state money raised by local taxation; (5) Negroes have clearly been injured in their educational rights by the postponement of this bill; (6) The original bill should be reported out of the Senate Committee and then be passed, since it provides over $300,000,000 annually for the improvement and equalization of American public education.

EDUCATION AND RACE RELATIONS

Racial Understanding.—The summer issue of the *Journal of Negro Education* dealt with "Education for Racial Understanding." This special study consisted of three parts—basis of education; educational programs; and next steps in education for racial understanding. The 18 chapters were written by white and Negro authorities in the fields of anthropology, psychology, education, philosophy, history, and religion. The study aimed to answer objectively some pertinent and vital questions in social education as it applies to the American Negro population.

Rosenwald Fund.—The Julius Rosenwald Fund, for the period 1942-44, according to President Edwin R. Embree, expended $1,615,513 on its programs of education and race relations, including education of teachers for work in Southern rural schools, colored and white; endowment of Dillard University at New Orleans; and fellowships for exceptionally promising Negroes and white southerners. From July 1942 to July 1944, the Fund spent $226,000 in the field of race relations. It helped give support to the American Council on Race relations, the Southern Regional Council, the National Council of Negro Women and the National Urban League, the National Association for the Advancement of Colored People, and the Associated Negro Press and the National Committee on Housing.

American Council.—On May 8 a group of outstanding men and women, both white and Negroes, decided to organize the American Council on Race Relations, according to Edwin R. Embree (*Journal of Negro Education,* fall 1944), "to bring about full democracy in race relations." The Council of 75 influential people operates through a small executive committee and a general director along three lines of activity—clearinghouse of information and service; liaison with American public schools; mass education, based on the full use of existing organizations that are worked in the field of race relations.

Fisk Institute.—During three weeks in July, the race-relations division of the American Missionary Association held its first institute at Fisk University, Nashville, Tenn. It furnished an intensive and practical course of study of the problems and methods of dealing with racial situations, according to Charles S. Johnson, Fisk director of the division of social sciences (*Journal of Negro Education,* fall 1944). The Institute was attended by individuals of mature experience and responsibility for interracial cooperation and goodwill. Of the 137 registrants, some 55 were Negroes. The North was represented by 47 men and women, the South, by 90. Besides the teachers present, there were representatives from the social, medical, public health, and religious fields of service. Some 15 groups of national importance were represented.

The curriculum was built around four areas of interest—race and racial theories; racial aspects of social problems, including racial adjustment and integration in industry, labor, housing, education, religion; community planning; and personal religion in human relations. Eight hours a day were devoted to lectures, seminars, and discussions. There were 36 lecturers and consultants, including Will W. Alexander, Fred L. Brownlee, Ira C. Brown, Countee Cullen, Allison Davis, President Embree, Lester Granger, Guy B. Johnson, Dean Thompson of Howard University, and Robert C. Weaver.

Problem of Finance.—Raymond M. Hughes, Iowa State College of Agriculture and Mechanic Arts (*School and Society,* Sept. 16) wrote: "While the states having a large percentage of Negroes generally rank low in education, due largely to low per-capita income and the resulting neglect of Negro education, it is very evident that the percentage of Negroes is not the controlling factor. . . . The 10 states ranking lowest . . . in education [southern] have a per-capita income of from less than one-fourth to one-third of the per-capita income of the richest state, New York." This problem of financing the education of Negroes faced citizens of North Carolina, South Carolina, Tennessee, West Virginia, Louisiana, Georgia, Mississippi, Alabama, Kentucky, and Arkansas.

HIGHER EDUCATION

Federal Survey.—The U. S. Office of Education, early in March, issued a press release dealing with its four-volume *Survey of Higher Education of Negroes,* which emphasized several important ideas—the collection by white colleges of information about Negroes and techniques of race adjustment and the dissemination of such information to both whites and Negroes; the development of union library lists on the Negro and race relations; the scientific study of the Negro and his contribution to American and world culture; and the responsibility of all groups to the Negro minority group in attacking interracial problems. Dr. Ambrose Caliver wrote volume four of the *Survey* and pointed out that restricted educational opportunities for Negroes have caused manpower losses, particularly in the armed forces and in war industries.

He added: "The mobility of the population ties together the interests of the different regions of the country. . . . The goals and activities of Negroes are common with those of the majority group in America. . . . A people half-ignorant and half educated is a threat to democracy."

Enrollment.—Martin D. Jenkins presented (*Journal of Negro Education,* spring number) some significant statistics on enrollment in institutions of higher education for Negroes, 1943-44: (1) enrollment of resident undergraduate college students in 83 institutions, 26,371 (male, 4,941, and female, 21,427; (2) graduates (bachelor degree), 4,707 (male, 684, and female, 3,583; (3) new freshmen, 6,320 (male, 2,149, and female, 8,425; and (4) specially organized war courses, 3,937. The institutions with the largest enrollments were: Howard University, 1,497; Prairie View, Texas, 1,003; Virginia State College for Negroes, 889; Hampton Institute, 773; and Agricultural and Mechanical College, South Carolina, 700.

The graduate enrollment in colleges and universities for Negroes, Fall of 1943, was 535 (male, 130, and female, 405). Degrees were awarded in 1942-43 to 180 (male, 57, and female, 123). The ranking institutions in graduate enrollment follow: Howard University, 241; Atlanta University, Georgia, 175; and Fisk University, Tennessee, 40.

Undergraduate enrollment in Negro colleges reached a peak in 1941-42. Since that time there has been a rapid decline, according to Dr. Jenkins, accompanied by a striking decrease in the number of male students and a slight increase in the number of women students. A few institutions, however, have reported an increase in enrollment. The present trend is toward an enrollment of 90 per cent as against 10 per cent men in courses leading to the bachelor's degree.

National Fund Drive.—Throughout the year 1944 white and Negro friends of higher education worked effectively in raising funds for 27 Negro colleges. The United Negro College Fund was headed by Walter Hoving. Some 71,000 persons, both white and Negro, contributed $901,812 toward the goal of $1,500,000 in a seven-month period. Corporations gave $228,831 and foundations gave $100,000, including some $36,000 from Negro service men (*The New York Times,* Dec. 27).

EFFECT OF WAR ON TRAINING OF TEACHERS

That the war has had a damaging effect upon Negro teachers colleges was shown by Matthew J. Whitehead, registrar of the State Teachers College at Elizabeth City, N. C. (*School and Society,* May 6). The enrollment in ten Negro teachers colleges in 1943-1944 was 4,382 (men, 605 and women, 3,777), as against the 1942-43 enrollment of 5,372 (men, 1,370 and women, 4,002), a decrease of 17 per cent. For men the decrease was 55 per cent and for women, 5.6 per cent. In a few cases there was some percentage of increase in enrollment, owing to increased family income as the result of the so-called war boom.

The teaching staff decreased in eight Negro teachers colleges and increased in only two. In general, many courses were dropped. The new courses were offered to meet war conditions and covered advanced physics, consumer education, contemporary world history, economics of total war, world politics, communication, war science, wartime and preprofessional science, functional mathematics, and international relations.

Negro state teachers colleges still recognized the value of liberal studies and attempted to meet post-war needs by emphasizing social sciences, education, and psychology. Four colleges offered work in the fields of juvenile delinquency and child care. There appears to be an adequate supply of post-war women teachers for Negro schools, but a real dearth of men teachers.

TEACHERS' SALARIES

Comparisons.—Some light on the problems involved in securing adequate salaries for Negro teachers and principals was furnished in two issues

(July and August) of *State School Facts,* published by the North Carolina State Department of Public Instruction. The average annual salary paid North Carolina Negro teachers from state funds increased from $393.80 in 1933-34 (white, $600.23) to $1,125 in 1943-44 (white, $1,270). The average annual salary paid North Carolina Negro teachers from state funds for county units, was in 1942-43, $897.35 (white, $1,011.90); for city units it averaged $968.15 (white, $1,099.14). These figures covered the cases of 1,996 Negro teachers and 4,104 white teachers.

For North Carolina Negro principals, during 1942-43, the average salary in county units was $1,402.61 (white, $1,753.53); for city units, it was $1,519.97 (white, $1,751.53). There were 254 Negro principals (white, 791).

Equalization.—North Carolina in June fulfilled a pledge made ten years ago and approved plans for equalizing salaries of white and Negro teachers. Other southern states, because of court orders, have begun to equalize teachers' salaries. This progressive step came about as the result of the decision in 1940 of the Fourth U. S. Circuit Court of Appeals that differentials in teachers' salaries, based on race, are discriminatory and in violation of the Constitution of the United States. No court order, however, had been brought in North Carolina to secure statewide equalization at a cost of some $200,000 per annum.

THE DENNY REPORT

Gov. Colgate W. Darden of Virginia made public on Dec. 23 the recommendations of the school commission headed by Dr. George H. Denny, chancellor of the University of Alabama. The goals of the comprehensive program, estimated to cost $10,500,000 annually in state and local funds, to be obtained by 1952, emphasized the importance of Negro education.

The report recommended the inclusion of the Virginia State College for Negroes as one of three institutions for the development at once of plans for the training of an adequate supply of qualified teachers of industrial arts, trades, and industrial education for the high schools of Virginia. It declared that such a teacher-training program should be adapted to present needs and to the increasing demand of the future development of vocational education throughout Virginia. The report recommended that there should be for all children an adequate and continuous supply of superior teachers in physical and health education, business and distributive education, home economics, and school library management. It recommended the placing of vocational schools at the high-school level in appropriate areas for both whites and Negroes.

The Denny commission emphasized the fact that the problem of educating the Negro is an integral part of the public-school system of Virginia and so treated the problem under the various sections of its report. It also named a research committee on Negro education.

EDUCATIONAL LEGISLATION

Virginia.—Virginius Dabney of the *Richmond Times-Dispatch* stated that the Virginia Legislature had arranged to allot $16,000 a year to Meharry Medical College for Negroes at Nashville, Tenn. for the education of 25 Negroes in medicine and dentistry. The General Education Board also made a gift of $4,000,000 to Meharry to carry forward its professional programs for Negroes (*The New York Times,* Apr. 23).

Kentucky.—Kentucky's General Assembly, on Feb. 25, 1944, voted 41-to-38 to authorize the teaching of whites and Negroes together in graduate and professional courses of institutions of higher learning in the state. The bill was introduced by Charles W. Anderson, Jr., of Louisville, who is the only Negro member of the Kentucky General Assembly.

Out-of-State Study.—Ten of the 17 Southern States have plans of awarding financial aid to Negroes for out-of-state study—Arkansas, since 1943, annual appropriation $5,000;

Kentucky, 1936, $10,000; Maryland, 1935, $25,000; Missouri, 1929, $30,000; North Carolina, 1939, $15,000; Oklahoma, 1941, $15,000; Tennessee, 1941, data lacking; Texas, 1939, $25,000; Virginia, 1936, $40,000; and West Virginia, 1927, $9,000. Plans for this type of educational assistance got under way in Alabama, Louisiana, and Mississippi. Florida and Georgia remained non-committal. Negro students have chosen institutions of well-established reputation and situated in areas of so-called liberal thinking toward the Negro. Many have elected to attend Howard and Meharry. The ten most favored subjects were: Education, medicine, social work, home economics, commerce and English, fine arts, music, dentistry, nursing, and chemistry.

An aggregate sum of $1,165,854 has been expended by Southern States in tuition scholarships for Negroes pursuing out-of-state study. Appropriations follow: Arkansas, $10,000; Kentucky, $67,000; Maryland, $220,000; Missouri, $220,000; North Carolina, $97,228; Oklahoma, $91,626; Texas, $150,000; Virginia, $270,000; and West Virginia, $40,000. The modal annual appropriation has been $25,000.

RURAL EDUCATION

The Julius Rosenwald Fund, Chicago, during 1942-44, continued its financial support of Negro rural education. It emphasized the importance of a more realistic preparation of rural teachers and concentrated on three Negro teachers colleges—Fort Valley, Ga., Tuskegee, Ala. and Jackson, Miss. —and one white institute—West Georgia College, Carrollton, Ga. On these colleges the Fund spent $233,-[illegible]80. The Fund programs emphasized three elements—selection of faculty, for scholarship and interest in rural life; cooperation between teachers and students; and the use of rural schools as teaching laboratories or clinics for apprentice training under supervision.

The Fund, in order to guarantee local and state endorsement of its work, has followed the policy of decreasing the annual grants as the states increase their grants. In four years, for example, Mississippi increased its grant to Jackson College from $10,000 a year to $60,000 a year; and Georgia increased its grant in five years to Fort Valley State College from $21,000 a year to $60,000 a year.

Additional assistance to Negro rural education has been given by the Fund through its program of preparing suitable teaching materials. During the period 1942-44, Eva Knox Evans and Mary Albright Giles collaborated in word and picture to produce some seven books—*Let's Plant Grass; Let's Raise Pigs; The Doctor Is Coming; Let's Cook Lunch; Out under the Sky; Children and You;* and *You're Going to Teach*—which help children want to carry out the ideas which are presented to them.

ADULT EDUCATION

The Georgia Agricultural Extension Service of the University System of Georgia (Walter S. Brown, director) issued, in June (*Bulletin* No. 513), "Ham and Eggs: A History of the Fort Valley Ham and Egg Show," written by H. M. Bond, president of the Fort Valley State College, which outlined graphically the work an outstanding Negro county agent, Otis S. O'Neal, had accomplished, through intelligence, imagination, and industry in improving rural community life by organizing young people in 4-H Club work and adults in year-round program of raising fat cattle, corn, and hogs.

This Fort Valley experiment in education brings together the farm products from hundreds of Negro farms and sends Negroes back to their homes with new ideas in farming, homemaking, and community building. This form of education is based on the simple principle of learning by doing.

HEALTH EDUCATION

Negro Health Week.—For 1944 the slogan was: "Better Health for Negro Children." In North Carolina, for example, Negro leaders united vigorously and intelligently to bring the following community program to the attention of all citizens, particularly with reference to the needs of Negroes: full-time health department with a medical director; physician for the supervision of a child-health campaign; one public-health nurse for every 2,500 persons; prenatal clinics and child-health conferences, held once a month; health supervision for every child; immunization against smallpox and diphtheria for all children, as well as medical and dental care; and adequate hospital and clinic facilities for the care of the sick.

Dr. Martha M. Eliot, Washington, D. C., through the North Carolina *Health Bulletin,* outlined the services that have been made available through Federal grants to states, including maternity and infant care for wives of enlisted servicemen; protection and care of homeless, dependent, and neglected children; and special programs for disadvantaged Negro children. North Carolina also devoted serious attention to the problem of tuberculosis among Negroes for whom the rate is almost six times that of the whites—Negro rate 158.8; white, 27.4.

Nutrition Workshop.—A nutrition workshop was held at Tuskegee, June 5 to July 8, for a selected group of Negro elementary and home-economics teachers, principals, Jeans supervisors of rural schools, nurses and dieticians, with a view to improving the nutritional status of the people with whom they work. The program was determined largely by the needs of the community from which the workers came. Three major problems were studied—teaching nutrition to community groups; developing adequate diet from southern home-grown produce; and organizing the school-lunch program, including pre-school feeding, according to Dr. Flemmie Kittrell, professor and head of the department of home economics at Howard University.

These Negro workers studied growing children and their needs. They helped youngsters develop desirable food habits; they studied children's eating behavior; they dealt intelligently with various types of conduct. They also enlisted the cooperation of parents by giving teas and holding discussions on subjects of mutual interest to teachers and parents. During the workshop period the children gain from one to three pounds each.

These teachers visited the Tuskegee Institute farm and the nearby Negro church. They prepared teaching material for primary and grammar grades, as well as for adult community groups. They saw and studied carefully motion pictures that deal with nutrition and its application to children and adults. They arranged exhibits of food produce that can be grown in the Southern States. They even glorified the use of the sweet potato and the soybean.

ART EDUCATION

Dr. Viktor Lowenfeld, director of the Hampton Institute art center, Hampton, Va., in an address before the Hampton Woman's Club [white] for which he had arranged an exhibition of paintings and sculpture work by the Institute students, said (Newport News, Va., *Daily Press,* Dec. 9):

"Negro art in the United States is at the point where its own organization form can be perceived. Formerly imitating the traditions of white culture, the Negroes have previously stultified their own creativeness.

"Modern Negro art is self-centered, since Negroes are immediately concerned with their struggle for freedom. Modern art has been a great help to the Negro in enabling him to break away from the formal schools and realize his own power to create in the light of his particular heritage and environment. . . .

"Negro students have come to discover the influence of primitive African art upon the modern school which is affected by the findings of modern psychology."

RACE-RELATIONS PROGRAMS

Intercultural Program.—The education of American Negroes was advanced through the setting up of several important programs of race relations. Early in December, 250 educators held an institute on intercultural education, sponsored by the Commission on Educational Organizations of the National Conference of Jews and Christians. President Frank E. Baker, president of the Wisconsin State Teachers College at Milwaukee advocated more diversified faculties and student bodies for teacher-training institutions and recommended the offering of lectures and forum discussions on racial and religious topics, as well as courses in anthropology.

Dr. Otto Klineberg of Columbia University declared that the most natural place to discuss race is in biology courses. Dr. Theodore Brameld, University of Minnesota, blamed the teachers' colleges for the fact that teachers are poorly prepared to teach intercultural education, because they know very little scientific data about race or cultural problems. (*The New York Times,* Dec. 6).

Bernays Award.—Edward L. Bernays provided on July 4 a sum of $1,000 for an award which will be made, in February 1945, through the race relations department of the Federal Council of the Churches of Christ in America, to the American citizen, white or Negro, whose work in the removal of racial tensions and conflicts has been outstanding.

Columbia Scholarships. — The Community Service Society of New York City awarded seven scholarships to Negro students attending the New York School of Social Work, Columbia University valued at $1,225. The scholarships were created through funds raised by the society's Harlem scholarship committee. Among Negroes there has been and still is a great dearth of trained social workers (*The New York Times,* Dec. 24).

Urban League. — The National Urban League, a social-service organization among Negroes, announced in July the organization of a department of public education which will teach the techniques for dealing with race-relations problems. Dr. Alphonse Heningsburg will serve as director. This work will be financed through the American War-Community Service. Interracial cooperation for victory and post-war reconstruction, including improvement of the wartime morale of the Negro population, serves as the basic objective of this new movement.

New York City Program.—A racial-unity group for New York City was announced by Mayor LaGuardia late in February "to promote understanding and mutual respect among all racial groups." Charles E. Hughes, Jr., is chairman of the nineteen-member Committee on Unity. Mayor LaGuardia's committee will maintain a qualified staff to make studies that can be used effectively in outlining programs to correct racial and religious prejudice and also develop community interest in racial-religious understanding and respect. This committee will be financed for two years by private contributions, but the committee itself will not solicit funds.

Springfield Plan.—Earlier in January, New York City sent Dr. Jacob Greenberg, associate superintendent in charge of school personnel, to Springfield, Mass., to study and report on the Springfield Plan, under which the schools teach the concepts of tolerance and mutual respect through an "education for democracy" program. New York City leaders in education expressed a deep interest in adapting the Springfield Plan, which stresses the importance of teaching racial trust and respect through the various courses from kindergarten to college, to the needs of a great metropolis. They realize that the teaching of attitudes must be incidental and can not be forced upon children in set doses. They are ready, however, to do all that they can to incorporate teaching of tolerance in school courses at all levels.

Schomburg Program.—The General Education Board of New York provided funds for a series of free lectures, beginning Oct. 7, on the history, current problems, leaders, mass movements and ideologies of the peoples of Africa and the West Indies, as well as of the Negroes of the United States, which will be given at the Schomburg Collection of Negro Literature, housed in the 130th Street

Branch of the New York Public Library. The speakers on Negro questions include Alain Locke and William H. Hastie, Howard University; Otto Klineberg, Columbia; Lin Yutang, Chinese author; and William E. B. DuBois, Negro author. This course aimed "to serve the needs of community leaders, public officials, and advanced students preparing themselves for activities or research in the field of race relations," according to L. D. Reddick, curator of the Schomburg Collection and director of the General Education Board project.

POST-WAR PLANNING

Education for Community Life.—American Negroes, under their own leadership, have come to some agreement on their post-war problems and prospects. According to Charles H. Thompson (*Journal of Negro Education,* fall 1944), the first duty of every Negro in every community is to familiarize himself with the problems of that community which are likely to result from the transition to peacetime economy. Then the Negro, wherever he has a voice, should press for the enactment of a permanent Fair Employment Practice Committee. Finally, the Negro should help his community attack constructively the post-war problems that his community faces.

Dr. Thompson pointed out that Negro schools and colleges should study the needs of returning veterans and war workers; should adapt their curricula and guidance procedures so as to meet the needs of their students; and should develop adult-education programs. He also called upon the Negro press and pulpit to center their attention upon post-war problems with a view to stimulating thought and activity which would lead to their solution. The Negro press is in a fine position to keep the public informed on the problems incident to conversion and demobilization as they affect the rank and file of Negroes.

Social Education.—On April 7, Prof. E. Franklin Frazier, head of the department of Sociology at Howard University, spoke before the North Carolina State Teachers Association, meeting in Raleigh, on "The Rôle of Negro Schools in the Post-War World." He outlined in some detail the history of Negro education from Reconstruction days to the present. He said: "The function of these Negro schools in the future will be to give their students the best possible education which will enable them to live in any part of the country. . . . If they cannot find an opportunity for their knowledge and skills in the South, they will go where such opportunities are open to them. . . . The segregated world for the graduates of Negro institutions is breaking down; therefore, the education which they receive must fit them to live in the same world as the other races in the American community." Dr. Frazier made a vigorous plea for the nation to help equip Negroes for intelligent participation in the task of bringing real democracy to the South.

Acute Problems.—The Negro during 1944 was shown to be intimately connected with the problem of providing post-war education for returning veterans, according to Ernest V. Hollis, principal specialist in higher education, U. S. Office of Education, while in a single Southern state the following facts should continue to remain true (*School and Society,* Dec. 2). In that state, for example, 33 per cent of white selectees and 82 per cent of the Negro selectees had completed the eighth grade or less. From one through three years of high-school work had been completed by 22 per cent of the whites and only 6 per cent of the Negroes; 25 per cent of the whites and 5 per cent of the Negroes were high-school graduates. From one through three years of college work had been completed by 13 per cent for the whites and 2 per cent for the Negroes; 7 per cent of the whites and 1 per cent of the Negroes were college graduates or post-graduates.

PUBLICATIONS

Over 1,000 bibliographical entries—books, bulletins, pamphlets, monographs, and periodical references—were printed in four issues of the *Journal of Negro Education* for 1944. Some of the outstanding publications that shed light on the Negro and his problems, particularly his educational problems, follow: *An American Dilemma* by Gunnar Myrdal (Harper); *Against the Odds* by Edwin R. Embree (Viking); *ABC's of Scapegoating* (Chicago Central YMCA); *The Negro in America* by Maxwell Steward (Public Affairs Committee); *Characteristics of the American Negro* by Otto Klineberg (Harper); *What the Negro Wants* by Rayford W. Logan (Univ. of North Carolina); *Why Race Riots?* by Earl Brown (Public Affairs Committee); *Black and White Rejections for Military Service* by Martin D. Jenkins and others (American Teachers Association); and *Julius Rosenwald Fund Review* by Edwin R. Embree.

LIBRARIES

By Mildred Othmer Peterson
American Library Association

WAR AND DEMOBILIZATION ACTIVITIES

Libraries will be affected by the demobilization of 11,000,000 service men and women, the shift of several million workers to non-war industries, the reconversion of industry, the reestablishment of a more normal family life, and the pressure of numerous disquieting issues of the day, all of which call for new levels of planning, study, and action in librarianship. A statement on adult education through libraries, adopted by the American Library Association in 1944, urges that libraries become centers of adult education, working in cooperation with all other community agencies to ease the problems of demobilization and readjustment.

The direct services of libraries to the war effort, which have been the chief concern of libraries and the American Library Association during the past two years, have now become well established. Librarians recognize that the first obligation of every institution as well as of every citizen is to help win the war, and consequently have given information and advisory assistance as opportunity offered. (For coverage of the activities of libraries and librarians see all 1944 issues of the *A.L.A. Bulletin, College and Research Libraries, Library Journal,* and *Wilson Library Bulletin.*)

The library's position in the final stages of the war and the readjustment period was stated in *Demobilization and the Library: The Library's Part in Military and Industrial Readjustment.* In March 1944 an experimental institute was held in Chicago to consider these problems. Many local and regional meetings of librarians followed, thus giving librarians in all parts of the country an opportunity to scrutinize the implications of the future for libraries. A special issue of the *A.L.A. Bulletin,* February 1944, was also devoted to demobilization and libraries.

ARMY AND NAVY LIBRARIES

During four years of building an Army and Navy, the Government created the largest library system of the world. Under 600 trained librarians some 2,000 Army and Navy libraries, many with their own separate buildings, have been in operation. Wherever service persons are ordered, whether in large stations or camps, in isolated outposts, on transports or hospitals, books are available as part of the Government's educational and recreational program. In addition to the 10,000,000 usable books collected in the Victory Book Campaign, 15,000,000 cloth bound books have been purchased and 14,000,000 paper bound "service editions" have been sent overseas.

The A.L.A. has submitted a plan to the Surplus Property Administration whereby millions of the army camp library books and equipment can be used in starting much needed rural public libraries, after this material has been declared surplus property by the Government. It is proposed that the books be allotted to the states by the U. S. Office of Education in proportion to each state's rural population; that they be allotted to counties and groups of counties within the states by the official state library extension agencies; that some funds be appropriated by the Federal Government to assist in making the books immediately available to the people through organized libraries; and that there be no Federal control of libraries within the states.

POST-WAR LIBRARY PLANNING

Following the publication in 1943 of *Post-War Standards for Public Libraries,* an evaluation of existing library service in terms of these standards has been made and the preparation of plans for complete library coverage and adequate library development begun. A plan for post-war standards for school libraries has been completed and will be published in 1945 by the American Library Association.

Post-war planning for college and university libraries is in progress, and the report is expected to be completed early in 1945. Objectives and standards for prison libraries have also been adopted. A memorandum on library planning in general, has been published as Number 4 of the American Library Association's "Planning for Libraries" series. Studies in the field of adult education and library personnel have been completed and planning in many other specific library fields is being carried on under the sponsorship of the Special Libraries Association, the American Standards Association, the Library of Congress, the Association of Research Libraries, the Council of National Library Associations and other groups.

Libraries are following the pattern of planning determined by the National Resources Planning Board which includes the following steps: "the determination of goals, the inventory of conditions, the discovery of needs as the inventory is compared with the goals, the projection of alternative solutions, policy-making, or the choice of the most feasible alternatives, and the absorption and execution of the plan by the community, state, or nation."

RELATIONS WITH FEDERAL AGENCIES

Through the A.L.A., libraries maintain close relations with the various governmental agencies and offices. A major project of the year for the A.L.A. Federal Relations Committee was to find an approach to Federal aid for libraries, which would carry conviction in war times. Negotiations are in process. State library associations are involved in plans for action.

Of considerable concern to libraries is the wartime limitation on the publication and distribution of government documents. Following a conference with government authorities, a Joint Committee on Government Publications was appointed, with representatives from the American Library Association, the American Association of Law Libraries, and the Special Libraries Association. Its primary functions are to facilitate the acquisition of documents by libraries, to arrange if possible for preservation for later distribution to libraries of documents now restricted, and also to give advice on publication problems when requested by government agencies.

During the year a law was passed requiring agencies of the Government other than the Superintendent of Documents to pay postage on all publications distributed by them. The possibility of securing an amendment exempting libraries is under consideration.

The Library of Congress and the Library Service Division of the Office of Education have contributed much to the welfare of libraries through their relations with other government agencies. Efforts have been made to secure priorities and essentiality ratings for libraries, without much success.

The Library Program Division of the O.W.I., which was discontinued in the spring, brought libraries to the attention of government officials and informed librarians of developments of concern to them. Its functions have been transferred to the Library Service Division of the U. S. Office of Education.

INTERNATIONAL ACTIVITIES

The part played by North American librarians in cultural cooperation has been intensified and expanded. Library cooperation has extended to Latin America, Europe, Africa, the Orient and South Pacific, and to libraries in war areas, now cut off from actual communication by wartime barriers. Sums entrusted to the American Library Association to be spent for special international projects amounted to about $500,000 in the past year. The contribution of the United States, through its libraries, to international good-will and to the preservation and promotion of scholarly activities in Latin America, Europe, and in China has been considerable.

LATIN AMERICA

American libraries are operating in Mexico City, Managua, and Montevideo under the direction of the A.L.A. with funds provided by the Department of State. Representative collections of American books have also been sent to 23 cultural institutes and about 450 libraries. About $100,000 worth of requested books by United States authors were shipped during the year. Relatively few Latin American libraries have funds which enable them to purchase books on North America, and such collections are still inadequate as compared with those from Great Britain, France, and Germany. During the year, training of librarians on the American pattern was continued or established in library schools in Mexico City, Caracas, Quito, Lima, Santiago, Buenos Aires, Montevideo, Sao Paulo, and Rio de Janeiro. Carl H. Milam and Harry Miller Lydenberg, officials of the A.L.A., visited 16 cities in 12 Latin American countries during 1944 to observe the extent to which librarianship in Latin America has developed. As a result of their tour they are recommending expansion of library relations between the continents, with special emphasis on more interchange of librarians and more continuous contact with Latin American librarians who have studied in the United States.

The cornerstone of the new building of the National Library of Peru at Lima was laid on Jan. 18, 1944, with the president of the republic as leader of the ceremonies. This replaces the building destroyed by fire the previous year. Considerable assistance in replacing books and personnel was given by the United States Government, by individuals, and by groups.

EUROPE AND DEVASTATED WAR AREAS

Purchase of noteworthy United States books, published between 1939 and 1943, for later distribution to foreign libraries in war areas, has been made possible by a $100,000 Rockefeller Foundation grant. For help in the selection of these books to be purchased and for possible use by foreign governments and other agencies in making their own purchases, a general list is being compiled by the New York Public Library. Special lists are being prepared by several learned societies. A further Rockefeller Foundation grant of $70,000 has been made for the continuation of subscriptions to scientific and scholarly periodicals for foreign libraries.

Extensive information has been collected on damage to libraries in war areas, but American participation in the rehabilitation of libraries is still in the planning stage. The acquisition of foreign books for American libraries following the war is also under consideration.

A nationwide book campaign for libraries in war areas is being planned for early 1945. The American Council of Learned Societies is studying the protection of cultural monuments in war areas and the conservation of cultural resources.

Ways and means of increasing the

purchase of British books by United States libraries are under consideration, and the Carnegie Endowment for International Peace is bringing to the United States for lecturing and consultation a distinguished British librarian. As part of a national informational program, American librarians have observed book weeks on Great Britain, Russia, China, and other allied, neutral, or occupied nations. In April 1944, Archibald MacLeish, Librarian of Congress, was one of five American delegates to attend a conference of Allied Ministers of Education in London to consider the restoration of intellectual and educational resources destroyed by the Axis.

Following the success of the American Library of Information opened in London by the OWI, similar centers have been established in Sydney, Melbourne, Wellington, Johannesburg, and Bombay. The American Library in Paris, established following the First World War, continued throughout the Axis occupation on a limited program, which will be greatly enlarged at the earliest possible moment.

CHINA

"A Proposed Cultural Program for Sino-American Relations Involving Libraries" has been prepared by the A.L.A. in cooperation with Sino-American organizations, Chinese scholars in the United States and the Department of State. Through the Library Association of China, Vice President Wallace delivered about 700 pounds of cultural material, chiefly books, to over 40 Chinese institutions and in return brought to the United States Chinese publications for the cooperating libraries. In December 1944, Carl M. White, director of Columbia University libraries and Dean of the School of Library Service, went to China at the invitation of the Chinese Library Association, to study possibilities for post-war and immediate cultural cooperation between the libraries of China and the United States. He will assist in planning the distribution among Chinese universities of American books and periodicals.

CANADA

The Canadian Library Council, incorporated under Dominion law in December 1943, met in Winnipeg, Jan. 17-18, 1944, to evaluate past activities and to formulate plans for the future. The Council has cooperated with the Wartime Information Board in distributing bibliographies on reconstruction and rehabilitation to Canadian libraries, and in preliminary plans for the issuing of a periodical list of Canadian Government documents. Two cooperative compilations have been prepared: a manual on library work, in the series Educational Aids for Service Personnel of the Canadian Legion Educational Services, and the brief, *Library Service for Canada,* a comprehensive plan. Of the various publications planned, *Rural Canada Needs Libraries* (with a French edition) has been distributed. A National Library of Canada is among dominion post-war plans.

LIBRARIANS FOR FOREIGN SERVICE

A roster of some 500 names of American librarians interested in foreign service has been prepared by the American Library Association under a Rockefeller Foundation grant. Positions may be available in American libraries abroad, of which there are now ten in various parts of the world, in library schools in Latin America, and possibly elsewhere. A demand is foreseen for consultants on library organization, cataloguing, library extension, and other specialties.

STATE AND LOCAL LIBRARY DEVELOPMENTS

State aid to libraries was made available for rural library development for the first time in Georgia by action of the governor as chairman of the state budget board between sessions, to the amount of $100,000 for the year. State aid was renewed in Michigan, New Jersey, Rhode Island, and Virginia, and increased in New York. Louisiana fund for demonstrations, included in the Library Commission appropriation, was increased considerably. The South Carolina

State Library Board set aside a part of its small appropriation for state aid. Efforts to secure state appropriations for the first time, failed to carry in Kentucky, Mississippi, and South Carolina. State library agency appropriations were increased appreciably in Louisiana, Michigan, New Jersey, and Virginia. They were renewed in the same amount or with small increases in Kentucky, Mississippi, New York, Rhode Island, and South Carolina. No legislature reduced the state agency appropriation.

County library development continued steadily where state aid is available; more slowly elsewhere. In 1944 there were 651 counties in continental United States with county or regional library service (compared to 631 in 1943), four in Hawaii, and four Canadian regional libraries (British Columbia and Prince Edward Island). A new impetus is given library extension by the post-war planning movement, which includes the following for public libraries: (1) complete public library coverage (there are still some 35,000,000 people without public library service); (2) library service of adequate quantity and dynamic quality; and (3) large units of service.

Many states have library extension plans; Michigan's plan calls for continuing state aid plus complete library coverage through 17 regional branches of the state library for two thirds of the state; and for state stimulation of county libraries in the southern third which is wealthier, and more populous.

State aid for school libraries continues to be an important factor in the development of school libraries. During the year the following amounts of state aid were used for school library books: Virginia, Louisiana, and Georgia, each $150,000; North Carolina, $120,000; Tennessee, $50,000; Minnesota, $33,000; Oregon, $19,000; Connecticut, $15,000; and New Jersey, $10,000.

SERVICE OF ESTABLISHED LIBRARIES

General and salary statistics for public libraries during 1943, covering the population served, number of volumes in the library, registered borrowers, book circulation, library income and expenditures, number of employees, and salaries, were published in the April 1944 *A.L.A. Bulletin.* Similar statistics on college and university libraries were included in the March 1944 *College and Research Libraries.* For public libraries in cities with over 200,000 population, Cleveland reported the greatest number of books per capita (2.48); Minneapolis, the greatest number of books circulated per capita (6.86), and Cleveland the highest library budget per capita ($2.44).

ADULT EDUCATION

"The Adult Education Policy for Libraries in the Immediate and Postwar Period," adopted by the A.L.A. in October 1944, states that "the library must project its personnel and its books into the planning and thinking of the community as never before. In order to be effective as an educational institution the library must extend readers' advisory service; expand and improve its general education program with provision of greater opportunities for self-education, group study and discussion; improve its services to present patrons and reach for the first time many members of the community both as individuals and as members of groups; present positive and objective materials on the issues and problems of the day; and utilize audio-visual aids and other new type materials." Adult education specialists in libraries believe that the library must assist the discharged service man and displaced war worker to make economic, social and personal adjustments by providing the proper materials and guidance; that the adjustments in family life can be materially aided by the proper use of library resources; and that young people in making the psychological, vocational, and social adjustments necessary to becoming responsible citizens can find invaluable aid and guidance in the library.

The A.L.A. Adult Education Board completed its first 20 years in 1944. It has been concerned with and continues to promote experiments, new methods, and practices in adult education; to give advice to libraries requesting it; to help plan adult education research and studies; and to cooperate with other agencies in the field. During these years of adult educational work, the emphasis has progressed from individual study to group work and discussion, and now to learning by doing, especially by working cooperatively on community problems.

Agencies which distribute books for the blind report that reading has decreased among this group, since so many of the blind have been absorbed in war industry. By act of Congress $100,000 is provided annually for books in Braille and Moon type for distribution through the Library of Congress. On June 13, 1944, $400,000 in additional funds were made available in this and succeeding years for talking book records and the maintenance and replacement of the talking book machines.

SURVEYS AND STUDIES

Several surveys of library services were made during the year including the following: the services of the Maryland state library agency, by the Maryland State-wide Library Survey Committee; the Library of Hawaii by the territorial bureau of the budget; Charlotte, N. C., Public Library by the American Library Association; the branch needs of the three New York City library systems by the N. Y. Planning Commission; the regional library work of Massachusetts by the Massachusetts Board of Free Public Library Commissioners, and self-surveys by the Los Angeles Public Library, the Public Library of the District of Columbia, and the Los Angeles County Public Library.

The following studies were published in issues of *College and Research Libraries:* "The Contribution of College and University Libraries to the Training of the Armed Forces," "Canadian Agricultural Documents, Federal and Provincial," Dec. 1943; "Obsolescence of Books in College Libraries," "New Periodicals of 1943—Part II," March 1944; "The Selection of Chemical Engineering Periodicals in College Libraries," June 1944; "Local War History Materials in College and University Libraries," and "New Periodicals of 1944—Part I," Sept. 1944.

Studies published in 1944 issues of *The Library Quarterly* include "Trends in University Expenditures for Library Resources and for Total Educational Purposes, 1921–41," and "Effects of Reading Upon Attitudes Toward the Negro Race," January; "Notable Materials Added to American Libraries, 1941-42," April; and "Special Collections of Negroana," July.

LIBRARY TRAINING AND PERSONNEL

Conditions pointed during the year to the need for an appraisal of the present pattern of education for librarianship. The shortage of librarians continued, and the lack of librarians qualified for those services which have been highlighted during the war was particularly evident, especially in the publication of several critical studies of education for librarianship. Library schools were actively revising curricula or experimenting with new courses and instructional methods anticipating the opportunities and responsibilities of libraries after the war. According to a report of the A.L.A. Board of Education for Librarianship, 34 (including two Canadian) accredited library schools had an enrollment of 1,062 in March 1944 as compared with 1,258 in 1943. Owing to the scarcity of personnel, salaries have been increased to meet more nearly the competition of business, industry, and government. Many libraries, however, have continued to keep the regular salary schedule and have supplemented it by means of cost-of-living adjustments for both the new and older members of the staff. Government and industry have continued to employ large numbers of librarians in duration positions. Library progress in the post-war period will depend largely on the readjustment of the returning librarians to the changed situations they will find in libraries, the readjustment of library staffs to the returned personnel, and the ways in which libraries use the abilities acquired and developed during military service.

According to post-war library personnel plans, 18,000 library school graduates will be needed during the six years following the war. This includes the present shortage of 3,500 librarians caused by personnel in the armed forces, government positions, and loss in the usual number of library school graduates; 6,500 normal replacements; and 10,000 additional librarians for planned expansion in public (3,500), college and university (1,500), school (4,000), and special (1,000) libraries. Some 2,000 librarians now in service and government library work will probably return to civilian libraries to help offset the estimated shortage. From 9,000 to 10,000 of the needed 18,000 librarians will be recruited from the usual sources and the remaining 8,000 to 9,000 will of necessity need to come from ex-service personnel. The present ratio of men to women in the profession is one to ten.

GRANTS, GIFTS, AND BUILDINGS

In addition to the various grants received by the A.L.A., which have already been mentioned, the Rockefeller Foundation gave $50,000 to the Huntington Library, San Marino, Calif. for regional studies of the Southwest and $12,000 to the Library of Congress for the purpose of determining the extent to which Russian materials are now available in American libraries. A grant of $14,500 was made to the New York Public Library for developing special services for Negroes in Harlem.

Numerous have been the gifts of funds, books, and collections to libraries, although these have not been so large during the war years. These include: to the Library of Congress, the Booker T. Washington collection of 180,000 items from Tuskegee Institute; to Hollins (Va.) College Library, a collection of early printed books from Samuel Herbert McVitty, Salem, Va.; to Fisk University Library, the George Gershwin Memorial Collection; to Oberlin (Ohio) College Library, linguistic records from Max Sherover, president of the Linguaphone Institute of N. Y.; to Harvard College Library, a Theodore Roosevelt Collection from the Roosevelt Memorial Association of N. Y., and a collection of Indian material from the American Board of Commissioners for Foreign Missions; to Kansas State College Library some 5,000 items in the home economics field from the heirs of Abby L. Marlott; and to Yale University Library, the Sholem Asch collection of Hebrew and Yiddish books from Louis M. Rabinowitz.

AMERICAN LIBRARY ASSOCIATION OFFICERS

For the year 1944-45: president, Carl Vitz, Public Library, Minneapolis; first vice president and president-elect, Ralph A. Ulveling, Public Library, Detroit; second vice president, Margaret R. Greer, School Libraries and Board of Education Library, Minneapolis; and treasurer, Rudolph H. Gjelsness, University of Michigan Library, Ann Arbor. Over 14,000 librarians, library trustees, and individuals interested in library service, more than 600 of whom are in the armed forces, are members of the A.L.A. which was organized in 1876 to promote the foundation and improvement of libraries in the United States and Canada. A.L.A. headquarters are at 520 North Michigan Avenue, Chicago, with Carl H. Milam, executive secretary. An International Relations Office is maintained in Washington, D. C., with Harry Miller Lydenberg, director. Over 600 volunteer workers serve on approximately 80 committees in carrying on the work of the Association in conjunction with its officers and staff of 82.

CONFERENCES

Because of the war and transportation difficulties the usual summer and winter conferences were not held. In addition to the "Conference in Print," already mentioned, a meeting of the A.L.A. Council and Executive Board was held in Chicago Oct. 12-14, 1944, for the transaction of business and consideration of war and post-war problems. The A.L.A. adopted policies governing its own activities, in the fields of adult education, post-war planning, and library extension. It approved the appointment of a committee to raise volunteer funds from librarians for library extension. It adopted in principle standards for public, school, prison, and hospital libraries. It resolved that " . . . books believed to be factually correct should not be banned or removed from the library simply because they are disapproved of by some persons." Attempts at censorship in violation of this resolution will be publicized by the A.L.A.

ANNUAL AWARDS

Esther Forbes won the Newbery Medal for *Johnny Tremain,* judged the best contribution to children's literature in the preceding year. The Caldecott Medal, given for the most distinguished picture book, was awarded to Louis Slobodkin for his illustrations of James Thurber's story, *Many Moons.* The A.L.A. citations of merit to library trustees were presented to Mrs. Lenore W. Smith, of Washington, D. C., and B. F. Coen of Ft. Collins, Col.

FINANCES

The Association's income in 1943-44 (excluding cash balances amounting to $100,400 on Sept. 1, 1943) was about $871,700. Income from membership dues, sales of publications, advertising, subscriptions, etc., was approximately $221,400, $75,100 being income from endowment funds; $8,000 from libraries participating in a cooperative plan for the purchase of scholarly periodicals from Axis-controlled countries; $140,500 was in payment of group retirement annuity premiums; and $426,700 came from outside sources in the form of grants or payments for specific purposes. The endowment is now about $2,112,000.

PUBLICATIONS

The A.L.A. publishes five periodicals, the *A.L.A. Bulletin, College & Reference Libraries,* the *Booklist,* the *Hospital Book Guide,* and *Subscription Books Bulletin.* In addition, it issued during the year 1943-44 some 53 publications, of which the following are a few: *Today's Handbook for Librarians; Library Planning; Simple Library Cataloguing,* 3rd ed.; *Reference Books 1941-1943; Introduction to Reference Work; Melvil Dewey; Classics of the Western World,* 3rd ed.; *American Library Laws,* 2nd ed.; *Administration of the American Public Library* (A.L.A. and Univ. of Illinois Press); *Basic Book Collection for Elementary Grades; A.L.A. Catalog 1937-1941; Public Library Finance and Accounting;* and *Anniversaries and Holidays,* 2nd ed.

Among the books in the field produced by other publishers were: Stanford, *Library Extension Under the W.P.A.* (Univ. of Chicago); Bray, *The Library's Financial Records* (R. R. Bowker); Butler, *Books and Libraries in Wartime* (Univ. of Chicago); *Fifty Years of Education for Librarianship* (Univ. of Illinois); Flexner, *Making Books Work, a Guide to the Use of Libraries* (Simon & Schuster); Gray, *Adapting Reading Programs to Wartime Needs* (Univ. of Chicago); Hausdorfer, *Handbook of Commercial, Financial, and Information Services,* rev. ed. (Special Library Assn.); Lyle and others, *The Administration of the College Library* (H. W. Wilson); and Spencer, *The Chicago Public Library, Origins and Backgrounds* (Univ. of Chicago).

PERIODICAL PUBLICATIONS

Adult Education Journal
525 West 120th Street, New York City.

American School Board Journal
Bruce Publishing Company, 540 North Milwaukee Street, Milwaukee, Wis.

PERIODICAL PUBLICATIONS

American Teacher
506 South Wabash Ave., Chicago.

Business Education World
270 Madison Ave., New York City.

Child Study
221 West 57th Street, New York City.

Clearing House
Inor Publishing Company, Inc., 207 Fourth Avenue, New York City.

College and Research Libraries
American Library Association, 520 N. Michigan Ave., Chicago, Ill.

Education
370 Atlantic Ave., Boston.

Education Abstracts
1201 Bluff St., Fulton, Mo.

Educational Administration and Supervision
Warwick and York, Inc., Baltimore, Md.

Educational Method
1201 Sixteenth Street, N.W., Washington, D. C.

Educational Record
744 Jackson Place, Washington, D. C.

Harvard Educational Review
Harvard Graduate School of Education, Cambridge, Mass.

Industrial Arts and Vocational Education
540 N. Milwaukee St., Milwaukee, Wis.

International Journal of Religious Education
203 North Wabash Ave., Chicago.

Journal of Business Education
512 Brooks Building, Wilkesbarre, Pa.

Journal of Education
6 Park Street, Boston.

Journal of Educational Psychology
10 East Centre Street, Baltimore.

Journal of Educational Sociology
32 Washington Place, New York City.

Journal of Engineering Education
Prince and Lemon Sts., Lancaster, Pa.

Journal of Experimental Education
University of Wisconsin, Madison, Wis.

Journal of Geography
3333 Elston Ave., Chicago, Ill.

Journal of Higher Education
Ohio State University, Columbus.

Journal of the National Education Association
1201 Sixteenth Street N.W., Washington, D. C.

Journal of Negro Education
Howard University, Washington, D. C.

Journal of Physical Education
Dayton, Ohio.

Junior College Journal
730 Jackson Place, Washington, D. C.

Library Journal
62 West 45th Street, New York City.

Library Quarterly
5750 Ellis Ave., Chicago.

National Parent-Teacher
600 S. Michigan Blvd., Chicago.

Occupations
425 West 123d St., New York City.

Parents' Magazine
52 Vanderbilt Ave., New York City.

Peabody Journal of Education
George Peabody College for Teachers, Nashville, Tenn.

Pitman's Journal
2 West 45th Street, New York City.

Progressive Education
221 West 57th St., New York City.

Religious Education
59 East Van Buren Street, Chicago.

School Management
52 Vanderbilt Ave., New York City.

School Review
5835 Kimback Ave., Chicago.

School and Society
Science Press, North Queen Street and McGovern Avenue, Lancaster.

Teachers College Record
Teachers College, Columbia University, New York City.

World Federation News
1201 Sixteenth Street, N.W., Washington, D. C.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia.
American Assn. for Adult Education, 525 W. 120th St., New York City.
American Council on Education, 744 Jackson Pl., N.W., Washington, D. C.
American Council of Learned Societies, 1219 16th St., N.W., Washington, D. C.
American Federation of Teachers, 506 S. Wabash Ave., Chicago, Ill.
Association of Land Grant Colleges and Universities, University of Kentucky, Lexington, Ky.
Association of Urban Universities, University of Pittsburgh, Pittsburgh, Pa.
Bureau of Educational Reference and Research, University of Michigan, Ann Arbor, Mich.
General Education Board, 49 W. 49th St., New York City.
National Congress of Parents and Teachers, 600 S. Michigan Blvd., Chicago, Ill.
National Council of Education, Teachers College, Columbia University, New York City.
National Education Assn. of the U. S., 1201 16th St., N.W., Washington, D. C.
National Research Council, Division of Educational Relations, 2101 Constitution Ave., N.W., Washington, D. C.
National Society for the Study of Education, 5835 Kimbark Ave., Chicago.
Public Education Assn., 745 Fifth Ave., New York City.

INTERNATIONAL

Institute of International Education, 2 W. 45th St., New York City.
International Council for the Education of Exceptional Children, 3 E. 25th St., Baltimore, Md.
International Council of Religious Education, 297 Fourth Ave., New York City.
Pan-American Educational Congress, Universidad de Chile, Cosilla 2543, Santiago, Chile.

TEACHERS

American Federation of Teachers, 506 S. Wabash Ave., Chicago, Ill.
Carnegie Foundation for the Advancement of Teaching, 522 Fifth Ave., New York City.
Educators Assn., Inc., 307 Fifth Ave., New York City.
Teachers Union of the City of New York, 13 Astor Pl., New York City.

SCHOOLS

American School Citizenship League, 295 Commonwealth Ave., Boston, Mass.
Child Study Assn. of America, Inc., 221 W. 57th St., New York City.
National Assn. of High School Supervisors and Inspectors, State Department of Education, Columbus, Ohio.
National Assn. of Secondary School Principles, 1201 Sixteenth St., N.W., Washington, D. C.
National Congress of Parents and Teachers, 600 South Michigan Boulevard, Chicago, Ill.
National Kindergarten Assn., 8 W. 40th St., New York City.
Progressive Education Association, 221 West 57th Street, New York City.
Y.M.C.A. Educational Secretaries Assn., 55 Hanson Pl., Brooklyn, New York City.

COLLEGES AND UNIVERSITIES

American Alumni Council, Michigan State College, East Lansing, Mich.
American Assn. of Collegiate Registrars, George Peabody College for Teachers, Nashville, Tenn.
American Assn. of Junior Colleges, 730 Jackson Pl., Washington, D. C.
American Assn. of University Professors, 1155 16th St., N.W., Washington, D. C.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

American Assn. of University Women, 1634 I St., N.W., Washington, D. C.

Association of American Colleges, 19 W. 44th St., New York City.

Association of American Universities, Yale University, New Haven.

Association of Colleges for Negro Youth, Fisk University, Nashville, Tenn.

Association of Land Grant Colleges and Universities, c/o Experiment Station, Lexington, Ky.

College Entrance Examination Board, 425 W. 117th St., New York City.

National Assn. of State Universities, Miami University, Oxford, Ohio.

National University Extension Assn., Indiana University, Bloomington, Ind.

New England Assn. of Colleges and Secondary Schools, Tufts College, Medford, Mass.

Phi Beta Kappa, United Chapters of, 12 E. 44th St., New York City.

Sigma Phi Society, 149 Broadway, New York City.

PROFESSIONAL EDUCATION

American Assn. of Teachers Colleges, State Normal School, Oneonta, New York.

American Educational Research Association, Teachers College, Columbia University, New York City.

American Medical Assn., Council on Medical Education and Hospitals, 535 N. Dearborn St., Chicago, Ill.

Association of American Law Schools, Ohio State University, Columbus, Ohio.

Association of American Medical Colleges, 5 S. Wabash Ave., Chicago, Ill.

Section of Legal Education, American Bar Assn., 1140 N. Dearborn St., Chicago, Ill.

Society for the Promotion of Engineering Education, University of Pittsburgh, Pittsburgh, Pa.

SPECIAL EDUCATION

American Association of Instructors of the Blind, Michigan School for the Blind, Lansing, Mich.

American Assn. to Promote Teaching of Speech to the Deaf, School for the Deaf, 1537 Thirty-fifth St., N.W., Washington, D. C.

American Humane Education Society, 180 Longwood Ave., Boston, Mass.

American Physical Education Assn., 311 Maynard St., Ann Arbor, Mich.

Engineers' Council for Professional Development, Committee on Engineering Schools, 29 West 39th Street, New York City.

National Assn. of the Deaf, 3633 E. Tremont Ave., New York City.

National Society for Crippled Children of U. S. A., 55 West 68th Street, New York City.

Religious Education Association, 59 East Van Buren Street, Chicago, Ill.

VOCATIONAL

American Assn. for the Advancement of Agricultural Teaching, Iowa State College, Ames, Ia.

American Home Economics Assn., 620 Mills Bldg., Washington, D. C.

American Vocational Association, 1010 Vermont Ave., N.W., Washington, D. C.

National Vocational Guidance Assn., 525 West 120 St., New York City.

Workers Educational Bureau of America, Machinists Bldg., Washington, D. C.

LIBRARIES

American Association of Law Libraries, Library of the Supreme Court of the U. S., Washington 25, D. C.

American Library Association, 520 North Michigan Avenue, Chicago, Ill.

Association of Research Libraries, The New York Public Library, 476 Fifth Avenue, New York City.

Special Libraries Association, 31 East 10th Street, New York City.

Note: For additional educational societies consult U. S. Office of Education, Washington, D. C.

NECROLOGY FOR 1944

Abbas Hilmi II, former Khedive of Egypt, 70, Dec. 21.

Ade, George, Hoosier humorist and author, 78, May 16.

Aitchison, Mrs. Ada C. McC., former dean of women at Reed College, Portland, Ore., 57, Jan. 5.

Alves, José de Paula Rodriguez, Brazilian diplomat, 60, May 6.

Anderson, Dr. Elam J., president of the University of Redlands, Calif., 54, Aug. 17.

Anderson, Dr. George C., secretary of the British Medical Association, 64, Jan. 1.

Anderson, William F., former Bishop (M. E.) of Boston, 84, July 22.

Andrew of Greece, Prince, son of King George I, 63, Dec. 3.

Armstrong, Margaret Neilson, artist and author, 76, July 18.

Asin y Palacios, Miguel, president of the Royal Spanish Academy and author, Aug. 12.

Atkin of Aberdovey, Lord, Welsh jurist, 77, June 25.

Auerbach, Joseph S., lawyer and author, 89, Sept. 16.

Avis, John B., Federal jurist, 68, Jan. 21.

Bache, Jules S., banker, art patron and collector, 82, March 24.

Baekeland, Dr. Leo H., inventor of bakelite, 80, Feb. 23.

Ballantine, Stuart, radio engineer, 46, May 7.

Bamberger, Louis, merchant and philanthropist, 88, March 11.

Banning, Kendall, editor and author, 65, Dec. 27.

Barbour, Ralph Henry, author of books for boys, 73, Feb. 19.

Barker, Ellen Frye, author and genealogist, 71, June 6.

Barnes, Dr. Clifford W., a founder and president of the Chicago Sunday Evening Club, 80, Sept. 18.

Barreda, Enrique D., Peruvian artist, 65, Dec. 8.

Barrere, Georges, French-born flutist, 69, June 14.

Bartlett, Rev. Maitland, Stated Clerk, New York Presbytery of the Presbyterian Church in the U. S., 74, Jan. 18.

Barton, Jr., Prof. William H., chairman and curator of Hayden Planetarium, 51, July 7.

Beach, Mrs. H. H. A., composer and pianist, 77, Dec. 27.

Beal, Right Rev. Harry, Episcopal Bishop of the Panama Canal Zone, 59, Nov. 22.

Beatrice, Princess, youngest and last surviving child of Queen Victoria, 87, Oct. 26.

Beck, Col. Joseph, former Foreign Minister of Poland, 49, June 6.

Bedaux, Charles E., inventor of labor "speed-up," 58, Feb. 19.

Bell, Sir George J., former Speaker of the Australian House of Representatives, 71, March 5.

Belleroche, Albert de, British painter and lithographer, July 14.

Bennett, Richard, actor, 72, Oct. 22.

Beresford, Harry, stage and screen actor, 77, Oct. 4.

Bergmann, Dr. Max, organic chemist, 58, Nov. 7.

Bernhard, Dr. George, German editor, teacher, and economist, 68, Feb. 10.

Besley, Dr. Frederick A., surgeon and secretary and treasurer of the American College of Surgeons, 76, Aug. 16.

Bestor, Dr. Arthur E., president of the Chautauqua Institution, 64, Feb. 3.

Birkhoff, Prof. George D., mathematician and former dean of the faculty of Arts and Sciences, Harvard University, 60, Nov. 12.

Bishop, Frank, pianist, 40, Jan. 30.

Bishop, John Peale, novelist, poet, and critic, 51, April 4.

Bizzell, William B., president emeritus of Oklahoma University, 68, May 13.

Blair, David H., former U. S. Commissioner of Internal Revenue, 76, Sept. 12.

Blaney, Charles E., author and producer of melodramas, 78, Oct. 21.

Bogert, George H., landscape painter, 80, Dec. 13.

Boguslawski, Moissaye, concert pianist and head of the Boguslawski College of Music (Chicago), 57, Aug. 30.

Bonillas, Ignacio, former Mexican ambassador to the U. S., 86, Jan. 31.

Bowen, Dr. Arthur J., former president of Nanking University, 71, July 26.

Boyd, D. Knickerbacker, architect and structural standardist, 72, Feb. 21.

Boyd, James, novelist, 55, Feb. 25.

Boys, Sir Charles Vernon, British physicist, 89, March 30.

Branch, Dr. Mary E., president of Tillotson College (Negro), 63, July 6.

Brand, Max (Frederick Faust), novelist and war correspondent, 51, May 11.

Brentano, Arthur, bookseller, 85, Jan. 29.

Bresco, Gen. Adolfo, veteran Spanish officer, 89, Jan. 5.

Brett, Prof. George S., Canadian philosopher and dean of the School of Graduate Studies, University of Toronto, 64, Oct. 27.

Brinkley, Nell (Mrs. Bruce Macrae), artist and illustrator, 56, Oct. 21.

Bristow, Joseph L., former U. S. Senator (Kan.), 83, July 14.

Broadbank, Sir Joseph G., British leader in organizing the London Port Authority, 86, July 14.

Brookheart, Smith W., former U. S. Senator (Ia.), 75, Nov. 15.

Brooks, Bryant B., former Governor of Wyoming, 83, Dec. 8.

Brown, H. Fletcher, chemist and philanthropist, 76, Feb. 28.

Brown, Jr., Thomas K., lexicographer and author, 55, June 5.

Brunschvicg, Leon, French philosopher and author, 75, Jan. 18.

Bryan, John Stewart, former president of William and Mary College, 72, Oct. 16.

Buller, Prof. Arthur H., Canadian botanist, 70, July 3.

Bunau-Varilla, Maurice, French newspaper publisher, 88, Aug. 2.

Burch, Rousseau A., Kansas jurist, 83, Jan. 29.

Burke, Charles H., former U. S. Commissioner of Indian Affairs and former Congressman (S. D.), 82, April 7.

Burke, Dr. Robert B., former dean of the College of the University of Pennsylvania, and Latin scholar, 76, July 1.

Butler, Rear Admiral Charles S., tropical medicine authority, 69, Oct. 7.

Cahan, Charles H., former Canadian Secretary of State, 82, Aug. 15.

Caillaux, Joseph, former Premier of France, 81, Nov. 21.

Campbell, Marcus B., Federal jurist, 77, Aug. 3.

Campbell, Thomas E., former Governor of Arizona, 66, March 1.

Cannon, Dr. James, retired Bishop of the Methodist Episcopal Church, South, 79, Sept. 6.

Carrel, Dr. Alexis, French biologist and surgeon, 71, Nov. 5.

Carter, Rev. Dr. Edward Randolph, Negro clergyman (Baptist), 86, June 8.

Carter, John Ridgely, banker and diplomat, 81, June 3.

Caskey, Lacey Davis, curator of classical antiquities at the Boston Museum of Fine Arts, 64, May 20.

Castelman, Gen. Edward de Curieres de, French military leader in the First World War, 92, March 19.

Castillo, Ramon S., former President of Argentina, 72, Oct. 12.

Castle, Brig. Gen. Frederick W., pioneer in the U. S. Eighth Air Force, 36, Dec. 24.

Cattell, Dr. James McK., psychologist, 83, Jan. 20.

Cavalieri, Lina, Italian operatic star, Feb. 8.

Cavendish, Lord Charles, second son of the Ninth Duke of Devonshire, 39, March 23.

Cecil, Charles P., Admiral U. S. N., 59, July 31.

Chamberlin, Brig. Gen. Harry D., military sportsman, 57, Sept. 29.

Chaminade, Cecile, French composer, 86, April 18.

Chandler, Harry, publisher of the *Los Angeles Times*, 80, Sept. 23.

CHEATHAM, MAJOR GEN. B. F., former Quartermaster General, U. S. A., 77, Dec. 2.

CHEN, EUGENE, British-born Chinese publisher and former Foreign Minister of China, 65, May 20.

CHRISTIE, JOHN W., engineer, inventor, 77, Jan. 11.

CIANO, COUNT GALEAZZO, former Foreign Minister of Italy, 40, Jan. 11.

CLAPPER, RAYMOND, journalist and radio commentator, 51, Feb. 2.

CLARK, DR. J. S., founder and president emeritus of Southern University (Negro), 73, Oct. 27.

CLOUD, VERY REV. CHARLES H., former president of the University of Detroit, 65, Oct. 5.

CLOUSTON, JOSEPH S., British author, 74, June 23.

CLYDE, LORD, former Lord Justice-General of Scotland, 80, June 17.

COBB, IRVIN S., author, humorist, and actor, 67, March 10.

COFFEY, DR. WALTER B., surgeon and co-developer of a cancer treatment, 75, March 25.

COGGESHALL, GEORGE W., chemical engineer, 76, Nov. 18.

COIT, DR. STANTON, social welfare leader and worker, 87, Feb. 16.

COLEBAUGH, CHARLES H., editor of *Collier's Weekly,* 51, May 10.

COLGATE, JAMES C., patron of Colgate University, 80, Feb. 26.

COLIJN, DR. HENDRIKUS, former Premier of The Netherlands, 75, Sept. 16.

COLLIER, SR., WILLIAM, stage and film actor, 77, Jan. 13.

COMPTON, MRS. OTELIA, "American Mother of the Year" (1939), 85, Dec. 15.

CONBOY, MARTIN, lawyer and Catholic lay leader, 65, March 5.

CONDÉ, BERTHA, Y. W. C. A. leader, author, and lecturer, Aug. 17.

CONLAND, HENRY H., publisher of *The Hartford Courant,* 61, April 15.

COOK, WILL MARION, Negro composer, 75, July 19.

COOLEY, MORTIMER E., dean emeritus of the College of Engineering and Architecture, University of Michigan, 89, Aug. 25.

COOMBS, CLARENCE B., aviation pioneer, 55, Feb. 26.

COPELLO, ANSELMO, Dominican Ambassador to the United States, 65, Dec. 9.

COTTRELL, JESSE S., newspaper correspondent and diplomat, 65, March 24.

COWARD, SIR HENRY, British choral master, 94, June 10.

COWDERY, DR. KARL M., educator, 49, Sept. 12.

COX, DR. HARVEY W., Chancellor of Emory University, 69, July 27.

CRAVEN, SIR CHARLES W., British armaments industrialist, 60, Nov. 18.

CRAWFORD, COE I., former Governor of South Dakota and U. S. Senator, 86, April 25.

CREGAR, LAIRD, film actor, 28, Dec. 9.

CROSMAN, HENRIETTA, actress, 83, Oct. 31.

CROZIER, WILLIAM P., editor of the *Manchester* (Eng.) *Guardian,* 64, April 16.

CRUNELLE, LEONARD, sculptor, 72, Sept. 10.

CULLEN, THOMAS H., Representative in Congress (N. Y.), Feb. 29.

CUNEO, DR. BERNARD, French surgeon, 71, Dec. 11.

DAHLERUP, BARON JOOST, Danish-American leader and author, 70, Aug. 23.

DALLIN, CYRUS EDWIN, sculptor, 82, Nov. 14.

DAN, DR. WILLIAM H. T., former president of Valparaiso University, 80, April 21.

DANIEL, DR. ANNIE STURGIS, "Angel of the East Side," 85, Aug. 10.

DANIELS, WINTHROP M., former chairman of the Interstate Commerce Commission, 76, Jan. 3.

DAVENPORT, DR. CHARLES B., geneticist, 77, Feb. 18.

DAVIES, LORD, Welsh coal operator, public health worker, and advocate of World Police, 64, June 16.

DAVIS, HENRY H., justice of the Canadian Supreme Court, 58, June 30.

DAVIS, JOHN M., former president and chairman of D. L. & W. Railroad, 72, March 2.

DAVIS, NORMAN H., chairman of the American Red Cross, 65, July 2.

DAVIS, MAJOR GEN. ROBERT C., executive director of the N. Y. Red Cross Chapter, 67, Sept. 2.

DAWSON, GEOFFREY, former editor of *The Times* (of London), 70, Nov. 7.

DAWSON, GRAHAME G., British Air Vice Marshal, Nov. 14.

DEAN, DR. LEE W., former dean, College of Medicine, University of Iowa, 71, Feb. 9.

DEAVER, BASCOM S., Federal jurist (Ga.), 62, Oct. 13.

DE BONO, EMILIO, Italian Marshal, Jan. 11.

DE FREYRE Y SANTANDER, DON MANUEL, Peruvian ambassador at Washington, 72, April 1.

DELAFIELD, LEWIS L., lawyer and civic reform leader, 81, Sept. 27.

DENSLOW, HENRY C., painter of birds, 77, July 25.

DES PORTES, FAY A., U. S. Ambassador to Costa Rica, 54, Sept. 17.

DEWART, WILLIAM T., president of *The New York Sun,* 68, Jan. 27.

DEXTER, WALTER, English author and authority on Dickens, 67, May 16.

DIAZ, SENORA CARMEN R. R., widow of Porfirio Diaz, former President of Mexico, 80, June 25.

DILL, FIELD MARSHAL SIR JOHN, head of the British Joint Staff Mission in the U. S., 63, Nov. 4.

DINEHART, ALAN, actor, producer, and author, 53, July 17.

DITMAN, DR. NORMAN E., pathologist, educator, author, 67, Dec. 15.

DOLE, MRS. HELEN J. B., translator, 86, June 9.

DOWNING, ROBERT L., tragedian and clergyman, 86, Oct. 1.

DUFFY, REV. JOHN ALOYSIUS, R. C. Bishop of Buffalo, 59, Sept. 27.

DUNIWAY, DR. CLYDE A., educator and author, 78, Dec. 24.

DURHAM, MARY E., British author and authority on Balkan affairs, 81, Nov. 15.

EASTMAN, JOSEPH B., member of the Interstate Commerce Commission, 61, March 15.

EBERHART, MRS. NELLE RICHMOND, lyricist, Nov. 15.

EBOUE, FELIX, Negro Governor General of French Equatorial Africa, 56, May 17.

EDDINGTON, SIR ARTHUR S., British astronomer, 61, Nov. 22.

EDMUNDS, STERLING E., St. Louis attorney, editor, author, 64, July 13.

EHRENSVAERD, COUNT CARL AUGUST, Swedish admiral, 86, Feb. 16.

EICHER, EDWARD C., Federal jurist, 65, Nov. 30.

ELLESMERE, FOURTH EARL OF, British sportsman, 71, Aug. 24.

ENGBERG, ARTHUR, Swedish official and political leader, 56, March 27.

ENGELHARDT, DR. FRED, president of the University of New Hampshire, 58, Feb. 3.

ENOCHS, BRIG. GEN. BERKELEY, U. S. A. retired, 69, Dec. 18.

ERTEGUN, MEHMET MUNIR, Turkish Ambassador to the United States, 61, Nov. 11.

ESPINOSA, DR. RODOLFO, Nicaraguan Liberal statesman, 68, Dec. 1.

ESSENDON, LORD (FREDERICK W. LEWIS), British shipping magnate, 74, June 23.

FALCON, THOMAS A., British landscape painter, 71, Feb. 1.

FALL, ALBERT B., former Secretary of the Interior, 83, Nov. 30.

FARMER, SIR JOHN B., British botanist, 78, Jan. 26.

FENDERSON, MARK, wood carver, illustrator, cartoonist, 71, Dec. 5.

FERGUSON, JAMES, former Governor of Texas, 73, Sept. 21.

FERRERO, DR. GINA LOMBROSO, Italian author, sociologist, psychologist; widow of the historian, Guglielmo Ferrero, 72, March 29.

FIFE, WILLIAM, Scottish yacht designer, 88, Aug. 11.

FILLMORE, PARKER, author, 66, June 5.

FISK, HARVEY E., banker and philanthropist, 88, Oct. 8.

FITCH, REV. DR. ALBERT PARKER, former president of the Andover Theological Seminary, 67, May 22.

FLESCH, PROF. CARL, Hungarian violinist, 71, Nov. 15.

FLETCHER-COPP, MRS. EVELYN, former head of the Fletcher Music Method School (Boston), Dec. 31.

FOOTNER, HULBERT, novelist, playwright, and historian, 65, Nov. 25.

FORLINES, DR. CHARLES E., former president of Westminster Theological Seminary, 76, July 31.

FOWLER, SIR RALPH H., British mathematical physicist, 55, July 28.

FOX, COL. PHILIP, astronomer, 66, July 21.

Frank, Maurice, opera impresario, Aug. 16.

Frazer, Dr. Joseph C. W., research chemist, 68, July 28.

Freschi, John J., New York jurist, 67, July 29.

Friedman, Rev. Dr. W. S., founder and president of the National Jewish Hospital at Denver, Col., 75, April 25.

Fuld, Mrs. Caroline Bamberger, philanthropist, July 18.

Fulmer, Hampton P., Representative in Congress (S. C.), 69, Oct. 19.

Gage, Prof. Simon H., research scientist in biology, 93, Oct. 20.

Gandhi, Mrs. Kasturbai, wife of Mohandas K. Gandhi, 74, Feb. 22.

Gans, Mrs. Bird Stein, founder and former president of the Child Study Association of America, 76, Dec. 29.

Gardner, J. Howland, marine engineer, 73, July 7.

Garrison, Theodosia (Mrs. Theodosia P. G. Faulks), poet, 70, Oct. 9.

Gell, Mrs. Edith Mary, British author, 84, April 18.

Gerould, Katharine Fullerton, short story writer and essayist, 65, July 27.

Gheon, Henri, French religious playwright and author, 69, Sept. ?.

Gibson, Charles Dana, illustrator and painter, 77, Dec. 23.

Gilbert, Mrs. Anne Kelledy, poet and author, 75, Nov. 6.

Ginzburg, Dr. Simon, Hebrew scholar, poet, and editor, 53, Jan. 11.

Giraudoux, Jean, French playwright, 62, Jan. 31.

Gloessner, Dr. Charles L., Austrian medical teacher, 68, Feb. 26.

Goldthwaite, Anne, painter, etcher, lithographer, 69, Jan. 29.

Gonzalez, Manuel, Puerto Rican industrialist and capitalist, 82, Oct. 16.

Goode, Sir William A. M., British relief and financial adviser in the First World War and after, 69, Dec. 14.

Gordon, Godfrey J. (Jan Gordon), British artist, author, traveler, 61, Feb. 2.

Gottschalk, Ferdinand, actor and playwright, 75, Nov. 10.

Gould, James Childs, British shipping and insurance leader, July 2.

Granichstaedten, Bruno, Viennese operetta composer, 64, May 30.

Graves, Charles Larcom, British editor and author, 87, April 18.

Gray, Right Rev. Campbell, former Episcopal Bishop of Northern Indiana, 65, May 16.

Green, Most Rev. Charles A. H., former Archbishop of Wales, 79, May 7.

Grey, Jane, actress, 56, Nov. 9.

Grossmith, Lawrence R., British-born stage and film actor, 66, Feb. 21.

Guedalla, Philip, British biographer, historian, and essayist, 55, Dec. 16.

Guggenheim, Mrs. Florence Schloss, philanthropist, 80, May 13.

Guilbert, Yvette, French singer and actress, 79, Feb. 2.

Gunn, Selskar M., health authority and vice-president of the Rockefeller Foundation, 61, Aug. 2.

Guthrie, Rev. Dr. William N., former rector of St. Mark's-in-the-Bouwerie, New York, 76, Dec. 9.

Hackett, Walter, playwright, 67, Jan. 20.

Hahn, Mrs. Otto, women's club worker and leader in consumer welfare, 87, July 25.

Hale, Dr. John H., Negro surgeon, 65, March 27.

Hall, Dr. Hubert, British historian, 87, Aug. 2.

Hamilton, Sir Robert W., former Chief Justice of British East Africa, 76, July 15.

Hammond, Dr. Graeme M., neurologist and sportsman, 86, Oct. 30.

Hammond, Major Otis G., New Hampshire historian, 75, Oct. 2.

Hanna, Right Rev. Edward J., former Archbishop (R. C.) of San Francisco, 83, July 10.

Hanotaux, Gabriel, French statesman, historian, and diplomat, 90, April 11.

Hapgood, Hutchins, author and journalist, 75, Nov. 18.

Harcourt-Smith, Sir Cecil, British art connoisseur and archeologist, 84, March 29.

Harding, Nelson, newspaper cartoonist, 68, Dec. 30.

Hardinge of Penshurst, Lord, former Viceroy of India, 86, Aug. 2.

Hardwick, Thomas W., former Governor of Georgia, 71, Jan. 31.

Harllee, Brig. Gen. William C., U. S. M. C., retired, rifle marksmanship expert, 67, Nov. 21.

Harsanyi, Zsolt de, Hungarian novelist, 57, Dec. ?.

Hartigan, Rear Admiral Charles C., former U. S. naval attaché in China, 62, Feb. 25.

Hartington, Marquess of, heir of the Duke of Devonshire, 26, Sept. 10.

Hartmann, Sadakichi, artist, writer, and critic, 78, Nov. 21.

Harwood, John Gomar, British actor and stage director, 68, Dec. 28.

Hayward, Nathan, former president of the Franklin Institute, 72, June 21.

Hayward, Col. William, commander of the 369th-Infantry (Negro) in the First World War, 67, Oct. 13.

Herrick, Christine Terhune, author on household economics and cooking, 85, Dec. 2.

Herriman, George, cartoonist, 66, April 25.

Hewlett, Sir William Meyrick, British diplomatic and consular officer in China, 67, March 16.

Hill, Lady Arthur, composer of "In the Gloaming," 95, Feb. 12.

Hinsdale, Dr. Wilbert B., anthropologist and former dean of the Homeopathic Medical College, University of Michigan, 93, July 25.

Hitchcock, Lieut. Col. Thomas, Army Air Force pilot and polo player, 44, April 19.

Hodges, Major Gen. Campbell B., former commandant of the U. S. Military Academy at West Point, 63, Nov. 23.

Hodson, Sir Arthur W., British colonial official, 63, May 26.

Hodza, Dr. Milan, former Premier of Czecho-Slovakia, 66, June 27.

Hoke, Dr. Michael, orthopedic surgeon, 70, Sept. 24.

Holdert, H. M. C., Dutch newspaper publisher, 74, July 21.

Holdsworth, Sir William, professor of law at Oxford, 73, Jan. 2.

Holland, Mildred (Mrs. E. C. White), actress, 74, Jan. 27.

Hollins, Marion, woman golf star, 52, Aug. 28.

Hoover, Mrs. Herbert, wife of ex-President Hoover, 68, Jan. 7.

Howard, Most Rev. Francis W., R. C. Bishop of Covington (Ky.), 76, Jan. 18.

Howland, Hewitt H., former editor of the *Century Magazine,* 80, May 10.

Hudson, Prof. Hoyt H., professor of English at Stanford University, 50, June 13.

Hughes, Dr. William E., diagnostician, 87, March 16.

Hull, Major Gen. John A., former Judge Advocate General of U. S. Army, 69, April 17.

Hullihen, Dr. Walter, president of the University of Delaware, 68, April 14.

Hunt, William, former warden of Attica State Prison and of Great Meadow Prison, 77, July 9.

Hutchison, Miller Reese, inventor, 67, Feb. 16.

Hyne, J. Cutcliffe, British novelist, 78, March 10.

Irving, Isabel, actress, 73, Sept. 1.

Ivanowski, Sigismund, portrait painter, 68, April 12.

Jack, Peter Monro, literary critic and lecturer, 47, April 20.

Janson, Paul Emile, former Premier of Belgium, 72, July ?.

Jastrow, Dr. Joseph, author and psychologist, 80, Jan. 8.

Jecminek, Alois, Czechoslovak-born poet, author, editor, 75, Jan. 24.

Jessup, Dr. Walter A., president of the Carnegie Corporation and Carnegie Foundation for the Advancement of Teaching, 66, July 7.

Johnson, Prof. Douglas W., geologist, 65, Feb. 24.

Johnson, Edward A., Negro lawyer and author, 83, July 24.

Jones, Dr. Frederick S., former dean of Yale College, 81, Jan. 14.

Jordana, Gen. Francisco G., Spanish Foreign Minister, 68, Aug. 3.

Joseph, Sir Samuel G., former Lord Mayor of London, 56, Oct. 4.

Josephson, Aksel G. S., bibliographer and librarian, 84, Dec. 12.

Kaila, Erkki, Archbishop of Finland (Lutheran), 77, Dec. 9.

Kandinsky, Wassily, non-objective artist, 78, Dec. 17.

Kapper, Isaac M., New York jurist, 79, March 25.

Katznelson, Berl, Palestine and Zionist leader, 57, Aug. 12.

Kaufman, Harry A., theatrical producer, 57, Nov. 18.

Kedroff, Nicholas, Russian Orthodox Archbishop, and Bishop of the United States and the Aleutian Islands, 41, May 15.

Keith, Arthur, geologist, 81, Feb. 7.

Keith, Prof. Arthur B., British constitutional authority and Sanskrit scholar, 65, Oct. 6.

Kelby, Charles H., New York jurist, 73, July 31.

Kelly, Edgar Stillman, composer, 87, Nov. 12.

Kerby, Sr., Brig. Gen. Edward R., 53, April 29.

Kerr, Mark E. F., British admiral, 79, Jan. 20.

Kinnard, Dr. Joseph S., lawyer, author, and lecturer, 85, Aug. 15.

Kephart, John W., Pennsylvania jurist, 72, Aug. 6.

Kinley, Dr. David, former president of the University of Illinois, 83, Dec. 3.

Kinloch-Cooke, Sir Clement, British journalist, 90, Sept. 4.

Kirby, Robert J., warden of Sing Sing, 55, Jan. 15.

Klein, Alfred J., big game hunter, 61, May 20.

Klein, Henri F., encyclopedia editor, journalist, publicist, 75, Nov. 29.

Knoedler, Charles L., art dealer, 81, Feb. 16.

Knox, William Franklin, Secretary of the Navy, 70, April 28.

Koch, Frederick H., folk playwright and dramatic educator, 66, Aug. 16.

Korff, Arnold, Austrian-born actor and director, 73, June 3.

Kozlowski, Prof. Leon, Polish archeologist and former Premier of Poland, 52, May ?.

Lachmann-Mosse, John Hans, former publisher of the *Berliner Tageblatt,* 59, April 18.

Landis, Kenesaw Mountain, former Federal jurist, commissioner of professional baseball, 78, Nov. 25.

Landis, Dr. Walter S., industrial chemist, 66, Sept. 15.

Larsson, Dr. Hans, Swedish philosopher and poet, 82, Feb. 16.

Leacock, Stephen B., Canadian economist and humorist, 74, March 28.

Lecointe, Sadi, French pioneer airman, July 17.

Lee, Blair, former U. S. Senator (Md.), 87, Dec. 25.

Lee, Gerald Stanley, author and clergyman, 81, April 3.

Le Hand, Marguerite A., former personal secretary to President F. D. Roosevelt, 46, July 31.

Leigh-Mallory, Sir Trafford, British Air Chief Marshal, 52, Nov. 14.

Lerchenfeld, Count Hugo von, former Premier of Bavaria and German diplomat, 73, April 19.

Lhevinne, Josef, Russian-born pianist, 69, Dec. 2.

Lincoln, Joseph C., Cape Cod novelist, 74, March 10.

Lincoln, Dr. Paul M., engineer and former head of the School of Electrical Engineering, Cornell University, 74, Dec. 20.

Lindi, Arnold, Swedish-born tenor of the San Carlo Opera Company, 55, March 8.

Lipman, Dr. Charles B., bacteriologist and dean of the Graduate Division of the University of California, 61, Oct. 22.

Litchfield, Grace, poet and novelist, 95, Dec. 4.

Littauer, Lucius N., glove manufacturer, philanthropist and former Representative in Congress (N. Y.), 85, March 2.

Little, Harry B., church architect, 61, April 4.

Livesay, John F. B., Canadian newspaper executive and correspondent, 69, June 15.

Lloyd, James T., former Congressman (Mo.), 86, April 3.

Loines, Mrs. Mary Hillard, pioneer feminist leader, 99, April 1.

Longley, Right Rev. Dr. Harry S., former Episcopal Bishop of Iowa, 75, April 5.

Lonsdale, Fifth Earl of, British sports leader, 87, April 13.

Lubbock, Basil, British author of sea stories, 67, Sept. 3.

Luhring, Oscar R., Associate Justice of the U. S. District Court for the District of Columbia, 65, Aug. 18.

Lutyens, Sir Edwin L., British architect, 74, Jan. 1.

Lyons, Sir Henry G., British geographer and scientist, 80, Aug. 10.

MacCallum, Dr. William G., pathologist, 69, Feb. 3.

Machado, Dr. Bernardino, former President of Portugal, 93, April 29.

Macrae, John, book publisher, 76, Feb. 18.

Maglione, Luigi, Cardinal, Papal Secretary of State, 67, Aug. 22.

Magni, Very Rev. Mgr. Alessio, Vicar General of the Society of Jesus, 72, April 13.

Manson, John T., banker, industrialist, and president of the American Bible Society, 82, Feb. 21.

Manville, H. Edward, industrialist and philanthropist, 72, June 27.

Marinetti, Dr. Filippo Tomaso, Italian poet, futurist, and fascist, 67, Dec. 2.

Marshall, Frank J., former American chess champion, 67, Nov. 9.

Marvin, Dr. Walter T., dean, College of Arts and Sciences, Rutgers University, 72, May 26.

Mathews, Dr. Edward B., mineralogist, 74, Feb. 4.

Matsudaira, Yorinaga, Count, president of the Japanese House of Peers, 69, Sept. 13.

Mayhew, Kate, actress, 91, June 16.

McAuliffe, Most Rev. Maurice F., R. C. Bishop of Hartford, Conn., 69, Dec. 15.

McClelland, Charles P., former presiding judge of the U. S. Customs Court, 89, June 6.

McComb, Samuel D., marine insurance authority, 64, March 17.

McCormack, Brig. Gen. C. C., soldier and military surgeon, 64, Nov. 5.

McCrea, Dr. Nelson G., classical scholar and teacher, 80, May 31.

McIntyre, Major Gen. Frank, U. S. Assistant Chief of Staff in the First World War, 78, Feb. 16.

McKissick, Dr. J. Rion, president of the University of South Carolina, 59, Sept. 3.

McMullen, Richard C., former Governor of Delaware, 76, Feb. 18.

McMurtrie, Douglas C., typography designer and author, 56, Sept. 29.

McNair, Lieut. Gen. Lesley J., U. S. Commander of Army Ground Forces in Normandy, 61, July 27.

McNary, Charles L., U. S. Senator (Ore.), 69, Feb. 25.

Means, Philip A., historian and anthropologist, 52, Nov. 24.

Melton, Dr. Wightman F., educator and poet, 77, Nov. 13.

Metzenbaum, Dr. Myron, ear, nose, and throat specialist, 68, Jan. 25.

Meulemeester, Gen. Adolphe de, Belgian colonial official, May 10.

Mikell, Dr. William E., former dean, University of Pennsylvania Law School, 75, Jan. 20.

Miller, Benjamin M., former Governor of Alabama, 80, Feb. 6.

Miller, Charles A., banker and former president of the Reconstruction Finance Corporation, 76, Nov. 22.

Miner, John Thomas, U. S.-born Canadian naturalist, 79, Nov. 3.

Mitchell, Sir William G. S., British Air Chief Marshal, 56, Aug. 15.

Moffat, David W., Utah jurist and former Chief Justice, 73, March 4.

Moffatt, Rev. Dr. James, Church historian and translator of the modern version of the Bible, 74, June 27.

Molloy, Dr. Daniel M., fighter against yellow fever and malaria, 61, Jan. 29.

Mondrian, Piet, Dutch artist, 71, Feb. 1.

Money, Sir Leo Chiazza, British economist and author, 75, Sept. 25.

Mordkin, Mikhail Mikhailovitch, ballet master and former partner of Pavlowa, 63, July 15.

Morine, Sir Alfred B., Canadian lawyer and public official, 87, Dec. 18.

Morris, Benjamin W., architect, 74, Dec. 4.

Morris, Dave Hennen, former Ambassador to Belgium and Minister to Luxembourg, 72, May 4.

Morrison, Martin D., former Representative in Congress (Ind.), 82, July 9.

Moses, George H., former U. S. Senator (N. H.), 75, Dec. 20.

Mosher, Dr. Esek R., dean of the School of Education of the College of the City of New York, 62, Oct. 30.

Moyne, Lord (Walter E. Guinness), British Resident Minister in the Middle East, 64, Nov. 6.

Mulock, Sir William, former Chief Justice of Ontario (Can.) and chancellor of Toronto University, 101, Oct. 1.

Myers, Leopold H., English novelist, 63, April 8.

Nash, George F., actor, 80, Dec. 30.

Neville, Edwin L., former American diplomat in the Orient, 59, April 7.

Newgarden, Major Gen. Paul W., commander of the Tenth Armored Division, U. S. A., 52, July 14.

Norris, George W., former U. S. Senator (Neb.), 83, Sept. 3.

O'Connell, William, Cardinal, Archbishop of Boston, 84, April 22.

Octavio, Rodrigo, Brazilian statesman and diplomat, 78, Feb. 28.

O'Duffy, Gen. Eoin (Owen), organizer of the Irish Blue Shirt Movement, 52, Nov. 30.

O'Hara, John M., poet and translator, 70, Nov. 16.

Oko, Dr. Adolph S., librarian, editor, and Spinoza authority, 61, Oct. 3.

O'Leary, James A., Representative in Congress (N. Y.), 54, March 16.

O'Neill, James, actor and aide of Actors Equity, 68, Nov. 27.

O'Neill, Rose, artist, novelist, poet, 69, April 6.

Ostrolenk, Dr. Bernhard, economist and author, 57, Nov. 26.

Otero, Miguel A., former Governor of New Mexico and author, 84, Aug. 7.

Otis, Charles, financial news publisher, 72, Sept. 30.

Otis, Merrill E., Federal jurist (Mo.), 60, Dec. 28.

O'Toole, Mgr. George B., Catholic clergyman and educator, 56, March 26.

Page, Major Gen. L. F., Canadian commander of the Atlantic Command, 60, Aug. 26.

Paleologue, Maurice G., French diplomat and author, 85, Nov. 21.

Palmer, John Leslie, British author and critic, 58, Aug. 5.

Parker, Louis N., dramatist and composer, 91, Sept. 21.

Parker, Prof. Theodore B., former chief engineer of the Tennessee Valley Authority, 55, April 27.

Parlby, George, English stained-glass artist, 88, May 4.

Parton, Ethel, writer of books for children, 81, Feb. 7.

Patterson, Prof. Frank A., Milton authority, 66, Aug. 4.

Patton, Rev. Dr. Robert W., Episcopal clergyman and former director of the American Church Institute for Negroes, 75, Sept. 9.

Peabody, Rev. Dr. Endicott, founder and headmaster of Groton School, 87, Nov. 17.

Pegram, Vice Admiral Frank H., British Fourth Sea Lord, 54, March 8.

Peroni, Carlo, Italian-born music director and opera conductor, 55, March 12.

Perry, Clarence A., promoter of community recreation, 72, Sept. 5.

Personius, Ely, New York jurist, 69, Dec. 12.

Peterson, Most Rev. John B., R. C. Bishop of New Hampshire, 72, March 15.

Pickens, Rear Admiral Andrew C., designer of the first bomb to be dropped from a plane, 62, Nov. 29.

Pinchot, Amos R. E., lawyer and sociologist, Feb. 18.

Pirie, Gordon L., Chicago merchant, 63, Feb. 16.

Pissarro, Lucien, French painter and wood engraver, 81, July 11.

Poiret, Paul, French couturier, 64, April 30.

Ponton, Georges Louis, French Governor of Martinique, Aug. 1.

Porche, Francois, French essayist and dramatist, 66, May 1.

Porter, Major Gen. David D., Marine Corps officer, 66, Feb. 25.

Post, Regis, H., former Governor General of Puerto Rico, 74, Oct. 5.

Prain, Sir David, British botanist, 86, March 17.

Pulliam, Roscoe, president of the Southern Illinois Normal University, 47, March 27.

Putnam, Mrs. Emily J., former dean of Barnard College, 79, Sept. 7.

Quezon, Manuel, President of the Philippine Commonwealth, 65, Aug. 1.

Quiller-Couch, Sir Arthur T., English novelist, critic, and anthologist, 80, May 12.

Quintero, Joaquin A., Spanish playwright, 71, June 14.

Ralph, Jessie, stage and screen actress, 79, May 30.

Raskin, Philip Max, Jewish poet and Zionist, 63, Feb. 6.

Raven, Henry C., zoologist, 54, April 5.

Reed, James A., former U. S. Senator (Mo.), 82, Sept. 8.

Reid, A. Duncan, insurance leader, 70, Sept. 27.

Reid, Dr. Harry, Johns Hopkins University geologist, 85, June 18.

Reitz, Col. Deneys, High Commissioner for the Union of South Africa in London, and author, 62, Oct. 19.

Renault, Louis, pioneer French automobile manufacturer, 63, Oct. 24.

Reynders, John V. W., bridge building engineer, 78, July 10.

Reynolds, Vice Admiral William, former commandant of U. S. Coast Guard, 84, Jan. 25.

Richman, Arthur, playwright, 58, Sept. 10.

Rigby, Sir Hugh M., British surgeon, 74, July 17.

Ritter, William E., zoologist and first director of Scripps Institute of Oceanography, 87, Jan. 10.

Rivero y Alonso, Dr. José I., Cuban journalist and publisher, 49, April 1.

Riza Pahlevi, former Shah of Iran, July 26.

Robinson, C. W., former Premier of New Brunswick (Can.), 77, July 27.

Robinson, William H., British artist and illustrator, 72, Sept. 13.

Rodgers, Vice Admiral W. L., commander of U. S. Asiatic Fleet, First World War, 84, May 7.

Rogers, Mrs. Betty Blake, widow of Will Rogers, 63, June 21.

Rolland, Romain, French novelist, 78, Dec. 30.

Rolleston, Sir Humphrey D., former physician to King George V, 82, Sept. 24.

Rommel, Field Marshal Erwin, German leader in the Second World War, 52, Oct. ?.

Roosevelt, Brig. Gen. Theodore, son of President Theodore Roosevelt, 56, July 12.

Roper, Mrs. Daniel C., widow of the former Secretary of Commerce and U. S. Minister to Canada, 73, Jan. 7.

Roth, Frederick G. R., sculptor, 72, May 21.

Russell, Sir Herbert, British war correspondent and author, 74, March 26.

Russell, Dr. James I., surgeon, 68, Feb. 14.

Rutter, Owen, British author and lecturer, 54, Aug. 2.

Sachs, Dr. Bernard, neurologist, 86, Feb. 8.

Salter, Sumner, organist and composer, 87, March 5.

Sanchez de Fuentes, Eduardo, Cuban composer and author, 70, Sept. 7.

Sandberg, Col. Jonkheer J. N. R., acting Chief of Staff of the Netherlands Indies Army, 45, Dec. 29.

Sanders, Jared Young, former Governor of Louisiana, 75, March 23.

Saphore, Right Rev. Edwin W., former Episcopal Bishop of Arkansas, 89, May 22.

Satz, Ludwig, Jewish comedian, 53, Sept. 1.

Scherer, Dr. James A. B., former president of the California Institute of Technology, 73, Feb. 15.

Schofield, Walter E., landscape painter, 75, March 1.

Schulthess, Edmund, former President of Switzerland, 76, April 22.

Schulz, Leo, Polish-born cellist, 79, Aug. 12.

Scott, Dr. Charles F., electrical engineer, 80, Dec. 17.

Sears, Sr., William J., former Congressman (Fla.), 69, March 30.

Selwyn, Edgar, producer and actor, 68, Feb. 13.

Selznick, Myron, film producer and agent, 45, March 23.

Sergius, Metropolitan, Patriarch of Russia, 78, May 15.

Sherry, J. Barney, actor, 72, Feb. 22.

Simms, Mrs. Ruth Hanna, publisher and former Congresswoman (Ill.), 64, Dec. 31.

Simonson, Dr. Jeremiah T., pediatrician and former president of the American Institute of Homeopathy, 74, Sept. 30.

Singer, Israel J., Yiddish novelist, 50, Feb. 10.

Slocum, Prof. Frederick, astronomer, 72, Dec. 4.

Smetona, Antanas, first President and President-in-exile of Lithuania, 69, Jan. 9.

Smith, Alfred E., former Governor of New York, 70, Oct. 4.

Smith, Mrs. Alfred E., wife of the former Governor of New York, 65, May 4.

Smith, Dr. David E., professor emeritus of Mathematics, Teachers College, Columbia University, 84, July 29.

Smith, Dr. Egbert W., Presbyterian mission leader and author, 82, Aug. 25.

Smith, Ellison D., U. S. Senator (S. C.), 80, Nov. 17.

Smith, Dr. George Otis, geologist, former head of U. S. Geological Survey, 72, Jan. 10.

Smith, William Lints, British journalist, former manager of *The Times* (of London), 68, June 23.

Smyth, Dame Ethel M., British composer, author, and feminist, 86, May 8.

Snell, Lord, deputy leader of the House of Lords, 73, April 20.

Somers, Sixth Baron, British colonial administrator and head of the Boy Scout movement, 57, July 14.

Sousa, Mrs. John Philip, widow of the "March King," March 11.

Spencer, Dr. Hazleton, Shakespearean authority, 51, July 28.

Stahl, John M., author and agricultural authority, 84, Oct. 17.

Starling, Col. Edmund W., former head of the White House guard, 68, Aug. 3.

Steele, Frederic Dorr, artist and illustrator, 70, July 5.

Steinach, Dr. Eugen, Austrian physician and rejuvenation authority, 83, May 14.

Stephens, William D., former Governor of California, 84, April 25.

Sterndale-Bennett, T. C., British composer, May 16.

Stevenson, Sir Daniel M., chancellor of Glasgow University, 92, July 11.

Stevenson, Dr. Edward L., historian and geographer, 85, July 16.

Stewart, William Kilborne, professor of Comparative Literature at Dartmouth College, and author, 69, May 6.

Stillman, James A., banker, 70, Jan. 13.

Stoddard, George, musical comedy lyricist, 69, July 19.

Stoudt, Dr. John B., historian and leader in the Dutch Reformed Church, 65, April 8.

Strathmore and Kinghorne, Earl of, father of Queen Elizabeth of England, 89, Nov. 7.

Straus, Percy S., merchant and philanthropist, 67, April 6.

Street, J. Fletcher, ornithologist, botanist, author, 64, Sept. 18.

Strong, Right Rev. Thomas B., former Bishop of Ripon and Oxford, 82, June 8.

Studd, Sir John E. Kynaston, former Lord Mayor of London, 85, Jan. 14.

Styer, Brig. Gen. Henry D., 81, May 11.

Suolahti, Dr. V. Hugo, chancellor of Helsinki (Finland) University, 70, Feb. 23.

Svinhufvud, Pehr Evina, former President of Finland, 82, Feb. 29.

Tarbell, Ida M., historian and biographer, 86, Jan. 6.

Teichman, Sir Eric, British diplomat and Orientalist, 60, Dec. 3.

Temple, Dr. William, Archbishop of Canterbury, 63, Oct. 26.

Ten Eyck, Peter G., former Representative in Congress (N. Y.), 70, Sept. 2.

Texiere, Jacob, Danish comedian and interpreter of Andersen's fairy tales, 65, April 30.

Thomason, Jr., Col. John W., veteran soldier and author, 51, March 12.

Thompson, Sir Herbert, British Egyptologist, 85, May 26.

Thompson, Dr. John, founder of Chicago Temple (First M. E. Church), 82, Sept. 19.

Thompson, William Hale, former mayor of Chicago, 74, March 19.

Tietjens, Eunice (Mrs. Cloyd Head), poet, lecturer, juvenile author, 60, Sept. 6.

Tomlinson, Irving C., Christian Science leader, Oct. 1.

Tone, Dr. Frank J., physical chemist, 75, July 26.

Townsend, Dr. Charles H., naturalist and zoologist, 85, Jan. 28.

Toyama, Mitsuru, Japanese terrorist leader, 90, Oct. 5.

Turgeon, Onesiphore, Canadian Senator (Gloucester), 95, Nov. 18.

Tuttle, Arthur J., Federal jurist (Mich.), 76, Dec. 3.

Tyler, Alice, library authority, April 18.

Vanderbilt, William K., former president of the New York Central R. R. and sportsman, 65, Jan. 8.

Van Nuys, Frederick, U. S. Senator (Ind.), 69, Jan. 25.

Van Valkenburgh, Arba S., Federal jurist (Mo.), 82, Nov. 4.

Vatutin, Gen. Nikolai F., Russian commander in the Ukraine, 45, April 14.

Vienot, Pierre, head of the French Committee of National Liberation in London, 47, July 20.

Vivian, Robert, English actor, 83, Jan. 31.

Von Below, Gen. Otto, German commander in Italy in the First World War, 87, March 15.

Vos-Poolman, Gusta de, Dutch actress, 73, March 2.

Waite, Col. Henry M., military and construction engineer, 75, Sept. 1.

Walker, Frederick J., British "anti-submarine ace," 48, July 8.

Walker, Brig. Gen. Nelson M., U. S. A. in France, 50, July ?.

Wall, Alexander J., director of the New York Historical Society, 59, April 15.

Wallace, Sir Cuthbert S., British surgeon and former president of the Royal College of Surgeons, May 31.

Wang, Ching-wei, president of the Japanese-sponsored puppet government of China, 49, Nov. 10.

Waterlow, Sir Sidney, British diplomat, 66, Dec. 4.

Waterman, Nixon, poet and author, 84, Sept. 1.

Weaver, Major Gen. Walter R., head of the Technical Training Command of the U. S. Army Air Forces, 59, Oct. 27.

Wells, Thomas B., former editor of *Harper's Magazine,* 69, Aug. ?.

Wendbridge, Dr. Eleanor, psychologist, 50, Feb. 20.

Werntz, Carl N., founder and former president of the Chicago Academy of Fine Arts, 70, Oct. 28.

Westman, Karl Gustaf, Swedish statesman and scholar, 67, Jan. 25.

Wheat, William H., Representative in Congress (Ill.), 64, Jan. 16.

White, Hervey, founder of the Byrdcliffe and Maverick art colonies (N. Y.), 78, Oct. 19.

White, John A., New York State Conservation Commissioner, 43, Dec. 31.

White, Robert S., Canadian editor and parliamentarian, 88, Dec. 5.

White, William Allen, Kansas editor and author, 75, Jan. 29.

Wilde, Dr. Arthur H., dean emeritus of Boston University School of Education, 78, Jan. 4.

Wiley, William F., publisher of the *Cincinnati Enquirer,* 70, Aug. 24.

Willett, Dr. Herbert L., churchman, educator, author, 79, March 27.

Williams, Dr. Blanche Colton, educator and author, 65, Aug. 9.

Williams, Dr. Edward H., physician-alienist and author, 75, June 24.

Williams, Dr. Robert O., former president of Ohio Northern University, 60, June 18.

Williamson, Frederic E., former president of the New York Central R. R., 68, Sept. 29.

Willkie, Wendell L., statesman and industrialist, 52, Oct. 8.

Willoughby, Dr. Raymond R., psychologist, 48, Oct. 3.

Wilson, Margaret W., daughter of President Woodrow Wilson, 57, Feb. 12.

Wingate, Major Gen. Orde C., British air-force Commando leader, 41, March 31.

Winston, Dr. Robert W., biographer and former jurist, 84, Oct. 14.

Winter, Mrs. Thomas G., former president of the General Federation of Women's Clubs, 79, April 5.

Winthrop, Bronson, lawyer and leader in social and charitable activities, 80, July 14.

Wiseman, Dr. Frederick L., British Methodist leader, 85, Jan. 16.

Wood, Frances Gilchrist, author, 85, Dec. 20.

Wood, Sir Henry J., British conductor, 75, Aug. 19.

Wood, Starr, British caricaturist, 74, Sept. 2.

Wood, Waddy B., architect, 74, Jan. 25.

Woodward, Sir Arthur S., British geologist, 80, Sept. 2.

Worthington, Charles C., industrialist and sportsman, 91, Oct. 21.

Wright, Harold Bell, popular novelist, 72, May 24.

Wyborgh, Baron Sweerts de Landes, Dutch diplomat, 81, March 16.

Yeats-Brown, Francis, British author, soldier, and aviator, 58, Dec. 19.

Younghusband, Major Gen. Sir George J., British soldier and keeper of the Crown jewels, 85, Sept. 30.

Zandonai, Riccardo, Italian composer, 61, June ?.

Zimmerman, Dr. James F., president of the University of New Mexico, 57, Oct. 20.

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